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<b>1. REPORT DATE (DD-MM-YYYY)</b> 11-06-2013		<b>2. REPORT TYPE</b> N/A		<b>3. DATES COVERED (From - To)</b> N/A	
<b>4. TITLE AND SUBTITLE</b> Environmental Assessment (EA): Proposed Missile Storage Improvements, Utah Test and Training Range				<b>5a. CONTRACT NUMBER</b> FA8201-09-D-0002	
				<b>5b. GRANT NUMBER</b>	
				<b>5c. PROGRAM ELEMENT NUMBER</b>	
<b>6. AUTHOR(S)</b> Klein, Randal Johnson, Sam				<b>5d. PROJECT NUMBER</b>	
				<b>5e. TASK NUMBER</b>	
				<b>5f. WORK UNIT NUMBER</b>	
<b>7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)</b>  Streamline Consulting, LLC 1713 N. Sweetwater Lane Farmington, Utah 84025				<b>8. PERFORMING ORGANIZATION REPORT NUMBER</b>	
<b>9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)</b> Hill Air Force Base 7274 Wardleigh Road Hill AFB UT 84056				<b>10. SPONSOR/MONITOR'S ACRONYM(S)</b> 75 CEG/CEN	
				<b>11. SPONSOR/MONITOR'S REPORT NUMBER(S)</b>	
<b>12. DISTRIBUTION / AVAILABILITY STATEMENT</b>  Approved for public release, distribution unlimited.					
<b>13. SUPPLEMENTARY NOTES</b> The original document contains color images.					
<b>14. ABSTRACT</b>  Hill Air Force Base (AFB) proposes to construct new missile storage facilities and related facilities in and near the missile storage area (MSA) at Oasis, Utah Test and Training Range (UTTR), in the North Range area. The findings of this EA indicate that the proposed action would not have significant adverse effects on the human environment or any of the environmental resources as described in the EA. Therefore, it is concluded that a Finding of No Significant Impact is justified.					
<b>15. SUBJECT TERMS</b> Environmental Assessment, Hill Air Force Base					
<b>16. SECURITY CLASSIFICATION OF:</b>			<b>17. LIMITATION OF ABSTRACT</b>  UU	<b>18. NUMBER OF PAGES</b>  61	<b>19a. NAME OF RESPONSIBLE PERSON</b> Randal B. Klein
<b>a. REPORT</b> unclassified	<b>b. ABSTRACT</b> unclassified	<b>c. THIS PAGE</b> unclassified			<b>19b. TELEPHONE NUMBER (include area code)</b> (801) 451-7872



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Hill Air Force Base, Utah

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*Final*

**Environmental Assessment:  
Proposed Missile Storage Improvements,  
Utah Test and Training Range**

June 11, 2013

***Final***  
**Environmental Assessment (EA):  
Proposed Missile Storage Improvements,  
Utah Test and Training Range**

**Contract No. FA8201-09-D-0002  
Delivery Order No. 0054**

**Department of the Air Force  
Air Force Materiel Command  
Hill Air Force Base, Utah 84056**

**June 11, 2013**

**Prepared in accordance with the Department of the Air Force Environmental Impact Analysis Process (EIAP) 32 CFR Part 989, Effective July 6, 1999, which implements the National Environmental Policy Act (NEPA), the President's Council on Environmental Quality (CEQ) regulations.**

## EXECUTIVE SUMMARY

### Purpose and Need

The purpose of the proposed action is to construct new missile storage facilities and related facilities in and near the missile storage area (MSA) at Oasis, Utah Test and Training Range (UTTR), in the North Range area. The existing missile storage facilities would be demolished. The existing missile storage facilities do not meet current safety standards, and future missions require storing larger items containing more energetic propellant.

### Selection Criteria

The missile storage facilities and related facilities should:

- provide safe and adequate facilities for storing missile motors for future mission requirements,
- improve road access,
- provide a water tank and a water-based fire suppression system,
- demolish the existing missile storage facilities,
- comply with United States Air Force real property instructions,
- be located close to the existing missile motor destruction facility, and
- not endanger or encroach upon military training areas or existing facilities.

### Scope of Review

The issues that were identified for detailed consideration are: air quality, solid and hazardous wastes (including liquid waste streams), biological resources, water quality, and cultural resources.

### Alternatives Considered in Detail

Alternative A (No Action Alternative) - Under the no action alternative, new missile storage facilities would not be constructed. Safety deficiencies would continue to exist.

Alternative B (Proposed Action - Construct New Missile Storage Facilities and Related Facilities) - The proposed action would include:

- missile storage facilities and supporting utilities,
- a water tank and a water-based fire suppression system,
- improved access roads, and
- demolition of the existing missile storage facilities.

Alternative C (Locate the Water Tank West of the MSA) - Alternative C differs from the proposed action only in respect to the location of the proposed water tank and water lines.

### Results of the Environmental Assessment

Three alternatives were considered in detail. The results of the environmental assessment are summarized in the following table.

## Summary Comparison of Predicted Environmental Effects

Issue	Alternative A No Action	Alternative B Proposed Action	Alternative C: Water Tank West of the MSA
Air Quality	Existing air emissions would continue for heating the missile storage facilities.	Qualified asbestos abatement contractors would prevent effects to air quality. Peak air emissions from construction would be less than 27 tons per year for each criteria pollutant as well as for VOCs. Fugitive dust would be controlled.  Operational air emissions would increase by 10 tons per year for the sum of all pollutants.  Conformity with the Clean Air Act was demonstrated.	Same effects as the proposed action.
Solid and Hazardous Waste	No effects were identified.	If contaminated building materials, soils or pavements are identified, they would be properly handled during the demolition and construction process. No effects were identified for operations.	Same effects as the proposed action.
Biological Resources	The area has been previously cleared, disturbed, and burned. There are some native plants, but undesirable species dominate.	During construction activities, Burrowing owls, badgers, and rodents could be temporarily displaced. Disturbed habitat would be restored. No effects were identified for operations.	Same effects as the proposed action.
Water Quality	No effects were identified.	Related to construction, water quality would be protected by implementing stormwater management practices. No effects were identified for operations.	Same effects as the proposed action.
Cultural Resources	No effects were identified.	Adverse effects were identified and mitigated through a memorandum of agreement with the Utah State Historic Preservation Office.	Same effects as the proposed action.

### Identification of the Preferred Alternative

Hill AFB prefers Alternative B (the proposed action) because it would create a looped water system.

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## LIST OF ACRONYMS AND CHEMICAL TERMS

ACHP	Advisory Council on Historic Preservation
AFB	Air Force Base
AFOSH	Air Force Occupational Safety and Health
AICUZ	Air Installation Compatible Use Zone
APE	Area of Potential Effect
BTU	British Thermal Unit
CAA	Clean Air Act
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CWA	Clean Water Act
DAQ	Division of Air Quality (Utah)
DoD	Department of Defense
DRMO	Defense Reutilization and Marketing Office
EA	Environmental Assessment
EIAP	Environmental Impact Analysis Process
EIS	Environmental Impact Statement
EISA	Energy Independence and Security Act
EPA	Environmental Protection Agency (United States)
HABS	Historic American Buildings Survey
HAER	Historic American Engineering Record
HALS	Historic American Landscapes Survey
HAP	Hazardous Air Pollutant
IDT	Interdisciplinary Team
ILS	Intensive Level Survey
lb	Pound
MBTA	Migratory Bird Treaty Act
MMSCF	Million Standard Cubic Feet
MOA	Memorandum of Agreement
MSA	Missile Storage Area
NAAQS	National Ambient Air Quality Standards

NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
NO <sub>x</sub>	Oxides of Nitrogen
O <sub>3</sub>	Ozone
OSHA	Occupational Safety and Health Administration
PCB	Polychlorinated Biphenyl
PM-2.5	Particulates Smaller Than 2.5 Microns in Diameter
PM-10	Particulates Smaller Than 10 Microns in Diameter
ppm	Parts Per Million
RCRA	Resource Conservation and Recovery Act
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SOC	Species of Concern
SO <sub>x</sub>	Oxides of Sulfur
SO <sub>2</sub>	Sulfur Dioxide
START	Strategic Arms Reduction Treaty
SWPPP	Stormwater Pollution Prevention Plan
TTU	Thermal Treatment Unit
UAC	Utah Administrative Code
US	United States (of America)
USAF	United States Air Force
USC	United States Code
UTTR	Utah Test and Training Range
VOC	Volatile Organic Compound

## 1.0 PURPOSE OF AND NEED FOR ACTION

### 1.1 Introduction

Utah Test and Training Range (UTTR) is located approximately 50 miles west of Hill Air Force Base (AFB) in the Great Basin of northwestern Utah and eastern Nevada. UTTR includes air space and land. It consists of approximately 13,000 square nautical miles of air space. The air space is situated over 2,624 square miles of Department of Defense (DoD) managed land. The DoD land includes Dugway Proving Ground managed by the U.S. Army. 1,490 square miles of DoD land is managed by the United States (US) Air Force (USAF). The Air Force managed land is divided into three separate areas referred to as ranges. They are designated as the North, South, and Wendover Ranges, of which the North and South Ranges are located in Utah (Figure 1). The North Range is a primary site for testing and storing advanced strategic weapons. This includes munitions and propellants.

On the northeastern portion of the North Range is a manned compound designated as Oasis. A missile storage area (MSA) is located near the Oasis Compound in Box Elder County. Oasis is an operations center. It includes billeting, dining, recreational, storage, and office facilities. It is also an equipment maintenance center. Generators for emergency power for the North Range are located here. It is home to civil engineering support functions, which include storage, test firing, and dissection of missile motors. The existing missile storage facilities and related facilities are over 50 years old. Because they are antiquated, they cannot support future mission requirements.

Figure 1 shows the location of the Oasis Compound and the MSA in relation to the North Range, South Range, Dugway Proving Ground, and Hill AFB.

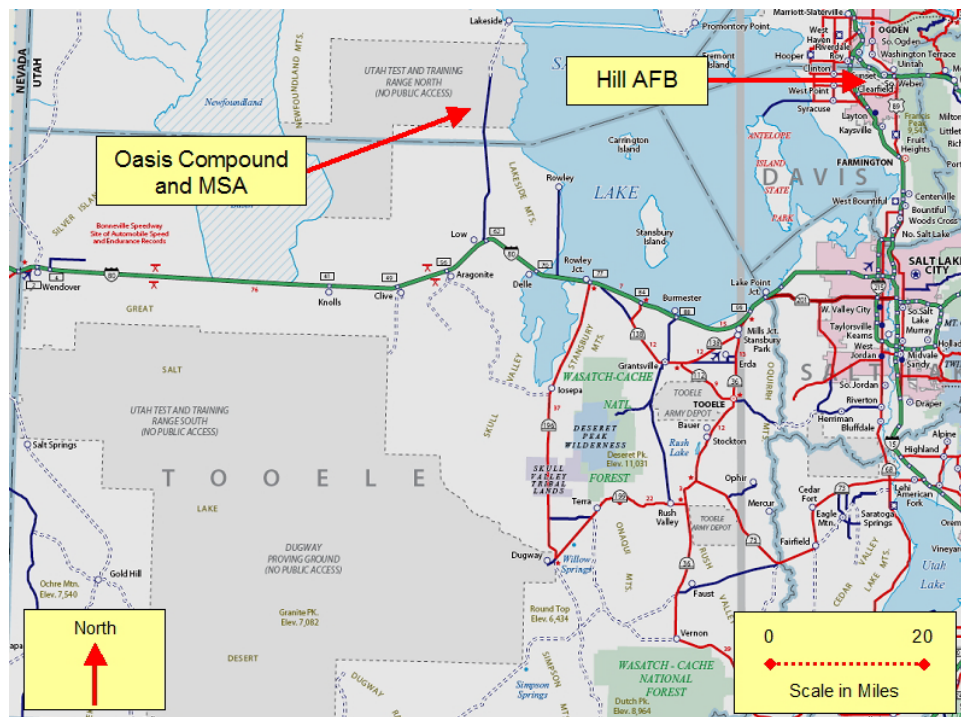


Figure 1: Location of Oasis Compound and MSA

## **1.2 Proposed Action**

The proposed action is to construct new missile storage facilities and related facilities in and near the MSA at Oasis (see Section 2.2.2 for details).

The total net explosive weight to be stored within the 782-acre MSA would remain the same.

The proposed action would consist of:

- Constructing missile storage facilities with footings, foundations, and floor slabs supporting prefabricated reinforced concrete panels and roofs; earthen covers on three sides and on the roof; and steel doors on the fourth side.
- Installing electrical power, telecommunication systems, intrusion detection systems, interior lighting, electric heating and cooling systems, and lightning protection.
- Providing a water tank and a water-based fire suppression system using fire hydrants to prevent range fires from reaching the missile storage facilities. Interior fire suppression systems may or may not be provided.
- Improving access roads.
- Providing connections to adjacent buried utilities consisting of water, electricity, and telecommunication lines.
- Demolishing the existing missile storage facilities.

## **1.3 Need for the Proposed Action**

The proposed action is needed due to the following conditions:

- The existing missile storage facilities do not meet current safety standards from the Department of Defense Explosives Safety Board (DDESB 2010).
- Current missile storage facilities were designed to store items containing Class 1.3 propellant. Future missions require missile storage facilities capable of storing larger items containing more energetic Class 1.1 propellant.
- Existing access roads are a safety risk for transporting missile motors because of inadequate physical condition and width. To satisfy future mission requirements, access roads must accommodate larger/heavier missile motors and the trailers that transport them.
- The existing MSA does not have a water system or fire suppression capability. Current design standards mandate a water-based fire suppression system for new or renovated missile storage facilities.

- Demolition of existing missile storage facilities would support Hill AFB in complying with existing Air Force policy to reduce by 20 percent the Air Force physical plant that requires funds, by 2020. (USAF 2009).

#### **1.4 Purposes of the Proposed Action**

The purpose of the proposed action is to provide safe and adequate facilities for storing missile motors for future mission requirements.

#### **1.5 Relevant EISs, EAs, Laws, Regulations, Plans, and Other Documents**

During the scoping process, no relevant environmental impact statements (EISs) or environmental assessments (EAs) were identified.

The following federal, state, and local laws and regulations apply to the proposed action:

- The National Environmental Policy Act (NEPA), Title 42 of the United States Code (USC) Section 4321 et seq.
- Council on Environmental Quality regulations, Title 40 of the Code of Federal Regulations (CFR) Parts 1500-1508.
- USAF-specific requirements contained in 32 CFR Part 989, Environmental Impact Analysis Process (EIAP).
- Safety guidelines of the Occupational Safety and Health Administration (OSHA).
- Relevant Air Force Occupational Safety and Health (AFOSH) standards.
- Utah's fugitive emissions and fugitive dust rules (Utah Administrative Code [UAC] Section R307-309).
- Utah's State Implementation Plan (UAC Section R307-110), which complies with the General Conformity Rule of the Clean Air Act (CAA), Section 176 (c).
- Determining Conformity of Federal Actions to State or Federal Implementation Plans, 40 CFR Part 93.154.
- USAF Conformity Guide, 1995.
- Utah Asbestos Rules, UAC, Section R307-801.
- The Resource Conservation and Recovery Act (RCRA), 42 USC Chapter 82, and regulations promulgated thereunder, 40 CFR Part 260 et seq.
- Federal facility agreement dated April 10, 1991, under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), 42 USC Section 9601 et seq.

- Utah hazardous waste management regulations contained in UAC Section R315, and the Hill AFB Hazardous Waste Management Plan dated May 2001, and subsequent versions.
- The Clean Water Act (CWA), 33 USC Section 1251 et seq., and Utah statutes and regulations promulgated thereunder.
- The Energy Independence and Security Act (EISA) of 2007, Public Law No. 110-140, Sec. 438, Storm Water Runoff Requirements for Federal Development Projects.
- Migratory Bird Treaty Act (MBTA), 16 USC Sections 703-712 et seq.
- Bald and Golden Eagle Protection Act, 16 USC Sections 668-668c et seq.
- The National Historic Preservation Act (NHPA) of 1966, as amended 16 USC Section 470 et seq.

Two Hill AFB resource management plans apply to the proposed action:

- The Hill AFB *Integrated Natural Resources Management Plan*, dated August 2007, and subsequent versions.
- The Hill AFB *Integrated Cultural Resources Management Plan*, dated January 2007, and subsequent versions.

The New Strategic Arms Reduction Treaty (START) was signed by the US and the Russian Federation on April 8, 2010. President Obama signed the instrument of ratification on February 2, 2011.

## **1.6 Decisions That Must Be Made**

Hill AFB must decide which of the following alternatives to implement:

- Not construct new missile storage facilities and related facilities (no action).
- Construct new missile storage facilities and related facilities (proposed action). If new missile storage facilities and related facilities are constructed, then a location must be selected.

## **1.7 Scope of this Environmental Analysis**

The scope of the environmental analysis is to consider environmental issues related to the proposed action and the reasonable alternatives identified within this document.

### **1.7.1 History of the Planning and Scoping Process**

On January 12, 2011 an initial scoping meeting was held in Building 5 at Hill AFB. It was held in the conference room at the offices of the 75th Civil Engineering Group, Environmental Division (75 CEG/CEV). The meeting was with the Hill AFB EIAP Interdisciplinary Team

(IDT). EIAP/IDT members included proponents of the proposed action, the Hill AFB EIAP manager, Hill AFB resource managers, and the authors of this document. During the scoping process, the EIAP/IDT considered and addressed the following issues:

- air quality;
- solid and hazardous wastes (including liquid waste streams);
- biological resources;
- geology and surface soils;
- water quality;
- cultural resources;
- occupational safety and health;
- air installation compatible use zone (AICUZ); and
- socioeconomic resources.

### **1.7.2 Issues Studied in Detail**

The following issues were identified by the EIAP/IDT for detailed consideration and will be presented in Sections 3 and 4:

#### **Air Quality** (attainment status, emissions, Utah's state implementation plan [SIP])

Existing missile storage facilities, which may contain asbestos, would be demolished as part of the proposed action. For the purposes of this document, if the word construction is used by itself, any potential demolition activities are included.

Air emissions would be produced by construction equipment. Operating the proposed action would not be expected to create air emissions. Air quality effects are discussed in Section 4 of this document.

#### **Solid and Hazardous Wastes** (materials to be used, stored, recycled, or disposed, including liquid waste streams; existing asbestos, lead-based paint, mercury, and polychlorinated biphenyls [PCBs])

During construction activities, solid wastes would be generated, and other hazardous wastes might be generated that would require proper treatment and/or disposal. Additional hazardous wastes could be generated if a spill of fuel, lubricants, or construction-related chemicals were to occur.

Operating the proposed action would not be expected to create solid and hazardous wastes. Effects related to solid and hazardous wastes are discussed in Section 4 of this document.

**Biological Resources** (flora and fauna including threatened, endangered, sensitive species; wetlands; floodplains)

Approximately 900 acres of land, most of it previously disturbed by Air Force activities, would be affected by the proposed action. Effects related to biological resources are discussed in Section 4 of this document.

The scoping discussions did not identify any issues related to wetlands or floodplains.

**Water Quality** (surface water, groundwater, water quantity, wellhead protection zones)

Approximately 900 acres of land, most of it previously disturbed by Air Force activities, would be affected by the proposed action. The proposed action would be subject to stormwater compliance requirements both during the construction period and during operations.

Hill AFB plans to submit an application to the Utah Division of Water Rights to obtain approximately 100 acre feet per year of groundwater. No groundwater contamination is known or suspected to exist in the vicinity of the proposed action. The scoping discussions did not identify any other issues related to quantity of water or wellhead protection zones.

Effects related to water quality are discussed in Section 4 of this document.

Liquid waste streams created during construction are included in the discussions related to solid and hazardous wastes (Section 4 of this document).

**Cultural Resources** (archaeological, architectural, traditional cultural properties)

Cultural resources are any place, site, building, structure, object, or collection of these that was built or used by people. Some cultural resources, such as traditional cultural properties and sacred sites, may be a place without any visible evidence of human use or modification.

Approximately 900 acres of land, most of it previously disturbed by Air Force activities, would be affected by the proposed action. Thirty-one missile storage facilities proposed for demolition, built between 1964 and 1978, have been determined eligible for listing on the National Register of Historic Places (NRHP) through consultation with the Utah State Historic Preservation Office (SHPO). These facilities are historically significant for their specifically-engineered storage function and their role in surveillance testing during the Cold War.

Effects related to cultural resources are discussed in Section 4 of this document.

### **1.7.3 Issues Eliminated From Further Study**

The following issues were considered by the EIAP/IDT and were not carried forward for detailed consideration in Sections 3 and 4:

**Geology and Surface Soils** (seismicity, topography, minerals, geothermal resources, land disturbance, known pre-existing contamination)



The scoping discussions did not identify any issues related to seismicity, topography, minerals, or geothermal resources.

Excavations would be necessary to install footings, foundations, and buried utilities consisting of water, electricity, and telecommunication lines. Additional clearing and grading activities would be required for the planned road improvements. Discussions related to preventing soil erosion (stormwater pollution prevention) are addressed under water quality effects (Section 4 of this document).

Contamination of shallow soil is not known to exist in the vicinity of the proposed action, but the potential to encounter contaminated soil does exist. Potential discovery of suspicious soils during excavation is addressed under solid and hazardous wastes (Section 4 of this document).

**Occupational Safety and Health** (physical and chemical hazards, radiation, explosives, bird and wildlife hazards to aircraft)

Throughout the construction phase of the project, Hill AFB contractors would follow OSHA safety guidelines as presented in the CFR. Hazardous materials that could be used during construction are included in the discussions related to solid and hazardous wastes (Section 4 of this document).

Related to Hill AFB military personnel and civilian employees, the Bioenvironmental Engineering Flight (75 AMDS/SGPB) is responsible for implementing AFOSH standards. The AFOSH program addresses (partial list): hazard abatement, hazard communication, training, personal protective equipment and other controls to ensure that occupational exposures to hazardous agents do not adversely affect health and safety, and acquisition of new systems.

The scoping discussions did not identify any issues related to occupational safety and health that would not be routinely addressed by OSHA rules and/or the Bioenvironmental Engineering Flight.

**AICUZ** (noise, accident potential, airfield encroachment)

An active runway exists to the north of the MSA. The scoping discussions did not identify any other issues related to noise, aircraft accident potential, or airfield encroachment.

**Socioeconomic Resources** (local fiscal effects including employment, population projections, and schools)

Opportunities would exist for local construction workers if the proposed action is constructed. Operating the proposed action would create few if any new jobs. The scoping discussions did not identify any issues related to population projections or schools.

## **1.8 Applicable Permits, Licenses, and Other Coordination Requirements**

Obtaining, modifying, and/or complying with the following permits would be required to implement the proposed action.

- The UTTR Title V Operating Permit (Permit Number: 300036002, and subsequent versions). See Section 4.2.1 for additional details.
- Utah's Storm Water General Permit for Construction Activities permit number UTR300000, dated July 1, 2008, and subsequent versions. See Section 4.2.3 for additional details.

The proponents would coordinate with the Hill AFB hazardous materials program manager (75 CEG/CEVC) to discuss hazardous materials brought on base to construct the proposed action. See Section 4.2.2 for additional details.

## **2.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION**

### **2.1 Introduction**

This section describes each of the alternatives considered. It documents the process used to develop the alternatives and lists the selection criteria. It presents a comparison matrix of the predicted achievement of the purposes of the project for each of the various alternatives. This section also identifies the Air Force's preferred alternative.

### **2.2 Description of Alternatives**

#### **2.2.1 Alternative A: No Action**

Under the no action alternative, adequate missile storage facilities and related facilities would not be constructed. The existing facilities and related facilities would operate as they currently exist. Neither the needs in Section 1.3 nor the purposes in Section 1.4 would be satisfied.

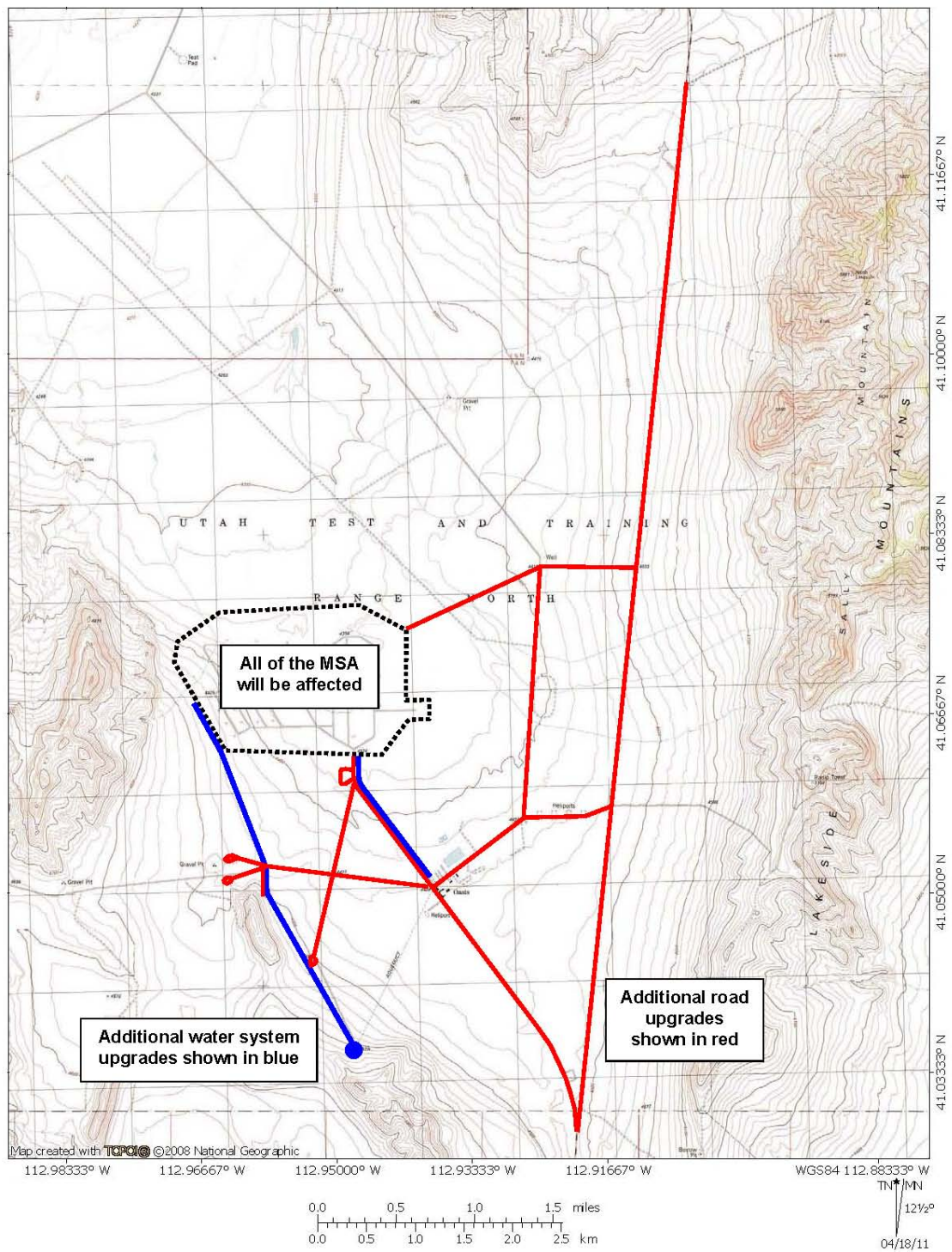
#### **2.2.2 Alternative B: Proposed Action - Construct New Missile Storage Facilities and Related Facilities**

The proposed action is to construct new missile storage facilities and related facilities in and near the MSA at Oasis (Figure 2). The total net explosive weight to be stored within the 782-acre MSA would remain the same. The proposed action would consist of:

- Constructing missile storage facilities with footings, foundations, and floor slabs supporting prefabricated reinforced concrete panels and roofs; earthen covers on three sides and on the roof; and steel doors on the fourth side.
- Installing electrical power, telecommunication systems, intrusion detection systems, interior lighting, electric heating and cooling systems, and lightning protection.
- Providing a water tank and a water-based fire suppression system using fire hydrants to prevent range fires from reaching the missile storage facilities. Interior fire suppression systems may or may not be provided.
- Improving access roads.
- Providing connections to adjacent buried utilities consisting of water, electricity, and telecommunication lines.
- Demolishing the existing missile storage facilities.

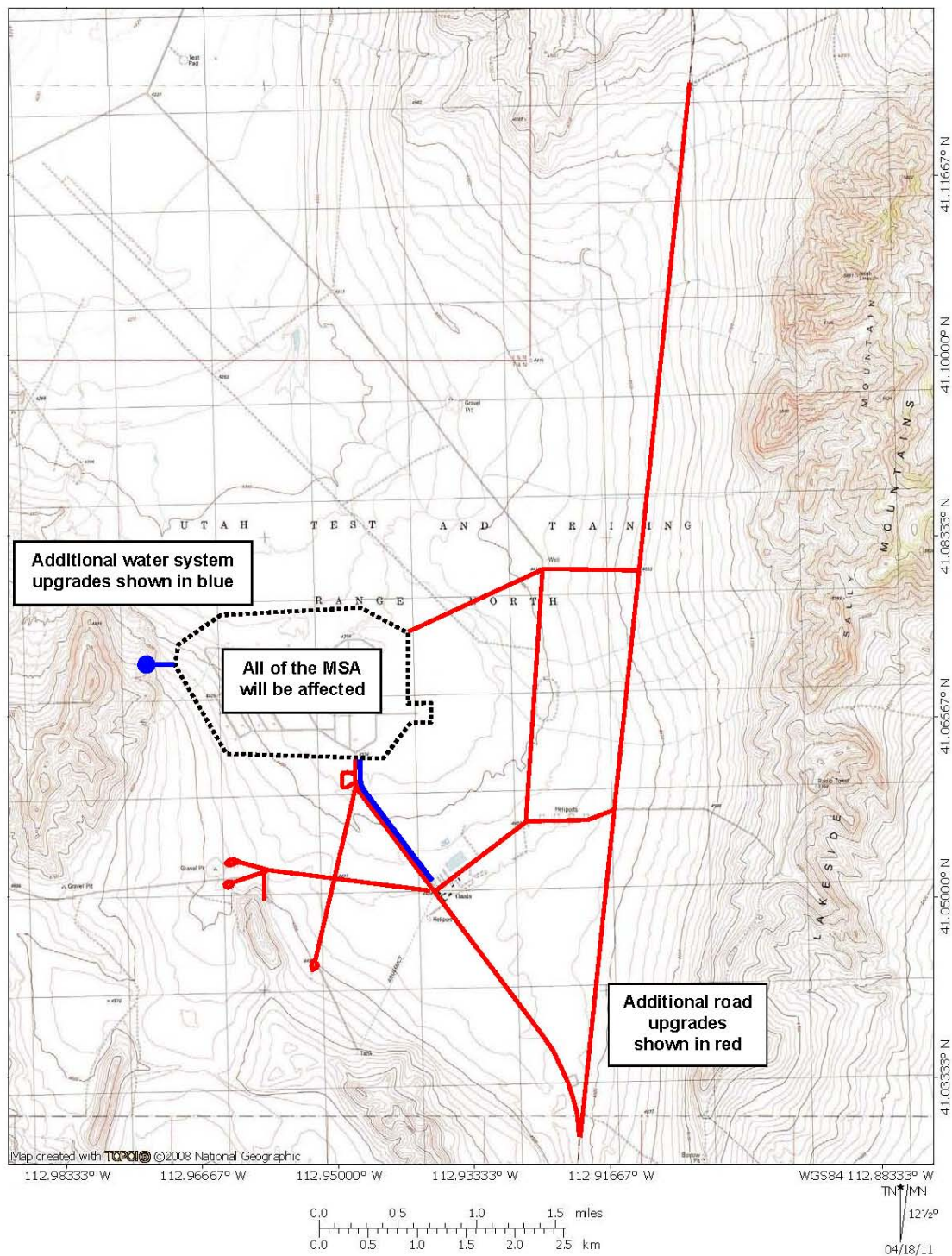
#### **2.2.3 Alternative C: Locate the Water Tank West of the MSA**

Alternative C differs from the proposed action only in respect to the location of the proposed water tank and water lines leading to the MSA (Figure 3).



**Figure 2: Areas Affected by the Proposed Action**





**Figure 3: Areas Affected by Alternative C**

## **2.2.4 Alternative D: Renovate Existing Facilities**

Under Alternative D, the existing missile storage facilities would be renovated and related facilities would be upgraded to meet current design standards.

## **2.2.5 Alternative E: Other Location**

Alternative E would be accomplished by constructing new missile storage facilities and related facilities at a location other than the existing MSA at Oasis.

## **2.3 Process Used to Develop the Alternatives**

As discussed in Sections 1.2, 1.3, and 1.4, Hill AFB proposes to construct new missile storage facilities and related facilities in and near the MSA at Oasis. The proposed missile storage facilities and related facilities would address the needs discussed in Section 1.3 and the purposes stated in Section 1.4.

Hill AFB planners, engineers, and Facility Working Group explored other alternatives. An alternate water system configuration was considered in detail. The feasibility of renovating the existing missile storage facilities was evaluated. The feasibility of developing other locations for missile storage was compared to the selection criteria. The option to take no action was also considered.

### **2.3.1 Alternative Selection Criteria**

The following selection criteria were used to develop the proposed action and alternatives. Missile storage facilities and related facilities at Oasis should:

- Provide safe and adequate facilities for storing missile motors for future mission requirements.

The existing missile storage facilities at the MSA do not meet current safety standards for the items they contain. Facilities are required that are capable of storing larger items containing even more energetic Class 1.1 propellant.

- Comply with USAF real property instructions.

Air Force Instruction 32-1032 (USAF 2003) addresses renovation of existing facilities. The estimated cost for renovating existing facilities should not exceed 70 percent of their real property value.

- Be located close to the existing missile motor destruction facility.

The Thermal Treatment Unit (TTU) at the North Range is the only facility that exists permitted by federal and state regulations to destroy large missile motors containing Class 1.1 propellant.

- Not endanger or encroach upon military training areas or existing facilities.

The Oasis Compound and adjacent land comprise a relatively small area within the North Range that has been excluded from military aircraft and land-based training activities. No other North Range location would be available.

### **2.3.2 Alternatives Eliminated From Detailed Consideration**

#### Alternative D: Renovate Existing Facilities

The estimated cost for renovating the current missile storage facilities would exceed 70 percent of their real property value. Using the criterion stated above, pursuing renovation would not comply with current USAF real property instructions.

#### Alternative E: Other Location

Locations near the existing MSA and the Oasis Compound were evaluated for explosive safety and acceptable topography. The results of the evaluation did not identify any available areas for constructing the MSA in another location.

<u>North of the MSA:</u>	would endanger the existing runway
<u>Northeast of the MSA:</u>	would endanger the existing runway
<u>East of the MSA:</u>	would endanger the existing dormitories, dining hall, offices
<u>Southeast of the MSA:</u>	would endanger the existing dormitories, dining hall, offices
<u>South of the MSA:</u>	would endanger the existing missile dissection facility, dormitories, dining hall, offices
<u>Southwest of the MSA:</u>	would endanger the existing missile dissection facility
<u>West of the MSA:</u>	would not be constructible due to 25 percent slopes
<u>Northwest of the MSA:</u>	would endanger the existing 30 millimeter weapon testing area

As stated above, moving the MSA to other locations on the North Range would conflict with military aircraft and land-based training activities. Attempting to move the MSA off the North Range would not meet the selection criterion for being close to the existing missile motor destruction facility.

## **2.4 Summary Comparison of the Alternatives and Predicted Achievement of Project Purposes**

### **2.4.1 Summary Comparison of Alternatives**

The no action alternative (Alternative A) would be to continue current operations using the existing missile storage facilities. The needs discussed in Section 1.3 would not be met.

Considering implementation of Alternatives B, C, D, and E, only Alternative B (the proposed action) or Alternative C (locate the water tank west of the MSA) would fully satisfy the needs discussed in Section 1.3 and the purposes stated in Section 1.4.

## 2.4.2 Predicted Achievement of Project Purposes

	Alternatives from Section 2.2				
	A No Action	B Proposed Action	C Water Tank West of the MSA	D Renovate Existing Facilities	E Other Location
<b>Purposes of the Proposed Action from Section 1.4</b>					
Provide safe and adequate facilities for storing missile motors for future mission requirements	No	Yes	Yes	Yes	Yes
<b>Additional Selection Criteria from Section 2.3.1</b>					
Comply with USAF real property instructions	Yes	Yes	Yes	No	Yes
Be located close to the existing missile motor destruction facility	Yes	Yes	Yes	Yes	No
Not endanger or encroach upon military training areas or existing facilities	Yes	Yes	Yes	Yes	No

Note: N/A = not applicable

**Table 1: Predicted Achievement of Project Purposes**

## 2.5 Identification of the Preferred Alternative

Alternative B (the proposed action), which is to construct new missile storage facilities and related facilities in and near the MSA at Oasis, is the preferred alternative.

Although Alternative C would also satisfy the purposes of the proposed action and the additional selection criteria, it was less desirable when evaluating the resulting water system configuration. Under the proposed action, all existing and proposed water tanks and lines would be configured as a looped system. The preferred approach to water system design loops distribution lines so that at any demand point, water is supplied from two directions. This improves both flow and pressure, which could be critical during fire suppression activities. Looped systems also allow for the system to remain active when repairs are being made elsewhere in the system. Alternative C would create a single, dead-end supply line arriving from the west of the MSA.



Another disadvantage to Alternative C would be constructing and maintaining a main water line on a very steep hillside (approximately 25 percent slope).

## **3.0 AFFECTED ENVIRONMENT**

### **3.1 Introduction**

Section 3 of this document discusses the existing conditions of the potentially affected environment, establishing a resource baseline against which the effects of the various alternatives can be evaluated. It presents relevant facilities and operations, environmental issues, pre-existing environmental factors, and existing cumulative effects due to human activities in the vicinity of the proposed action or the alternative locations.

Issues discussed during scoping meetings, but eliminated from detailed consideration (see Section 1.7.3) include:

- geology and surface soils (seismicity, topography, minerals, geothermal resources, land disturbance, known pre-existing contamination);
- cultural resources (archaeological, architectural, traditional cultural properties);
- occupational safety and health (physical and chemical hazards, radiation, explosives, bird and wildlife hazards to aircraft);
- AICUZ (noise, accident potential, airfield encroachment); and
- socioeconomic resources (local fiscal effects including employment, population projections, and schools).

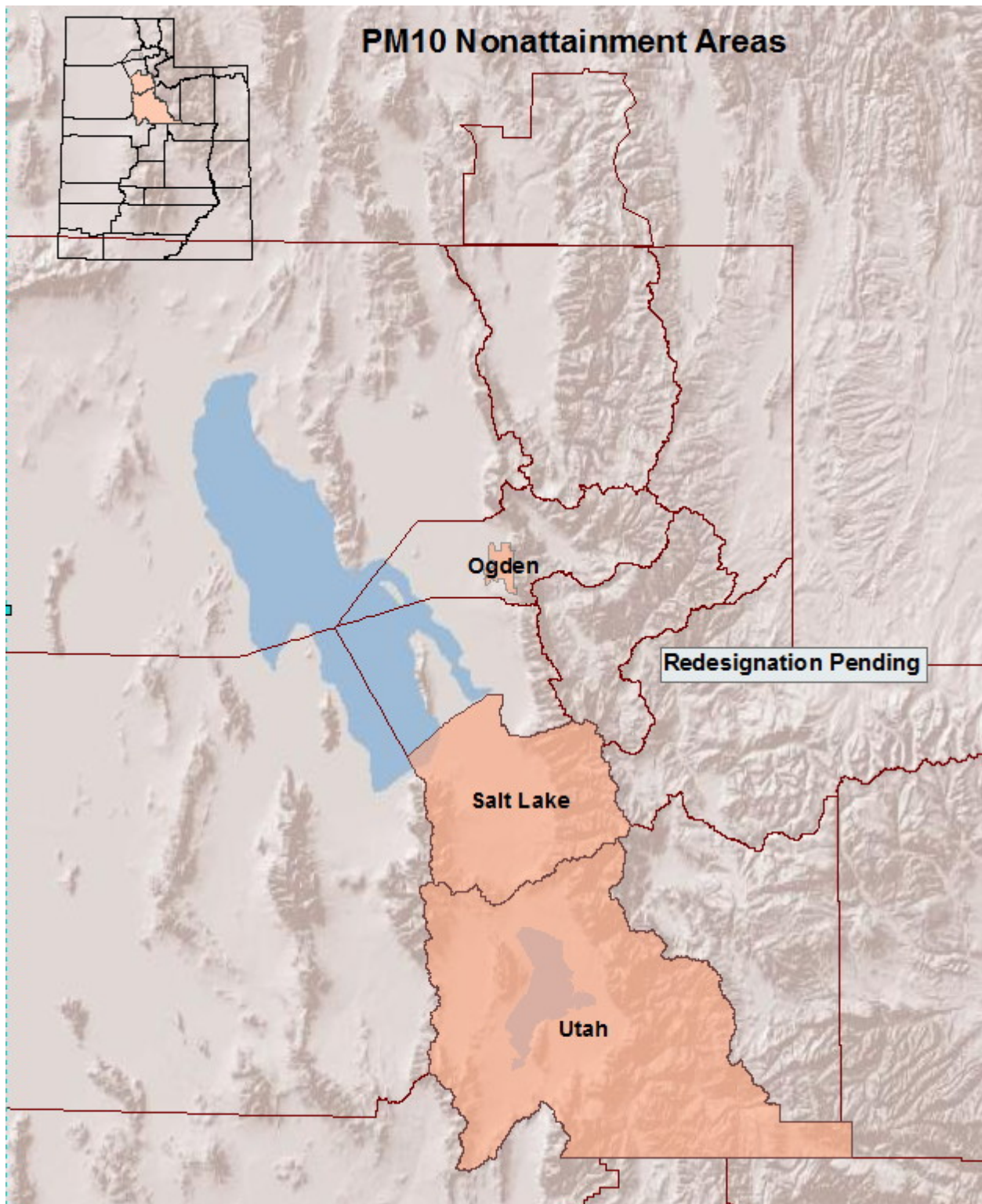
### **3.2 Description of Relevant Facilities and Operations**

As stated above, the existing missile storage facilities and related facilities do not meet current safety standards and are inadequate to meet future mission requirements. The Air Force is proposing to construct a rail spur to more efficiently transport missile motors to the MSA. The environmental effects of that proposal are being analyzed in a separate document. No other relevant facilities or operations were identified.

### **3.3 Description of Relevant Affected Issues**

#### **3.3.1 Air Quality**

Compared to federal clean air standards, Utah's Division of Air Quality (DAQ) reports five non-attainment and/or maintenance area designations (Figures 4-8 [DAQ 2011]). Non-attainment areas fail to meet national ambient air quality standards (NAAQS) for one or more of the criteria pollutants: oxides of nitrogen (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), ozone (O<sub>3</sub>), particulates less than 10 microns in diameter (PM-10), particulates less than 2.5 microns in diameter (PM-2.5), carbon monoxide (CO), and lead. Maintenance areas were once designated as non-attainment, but are now consistently meeting the NAAQS.



**Figure 4: State of Utah Areas of Non-Attainment for PM-10**

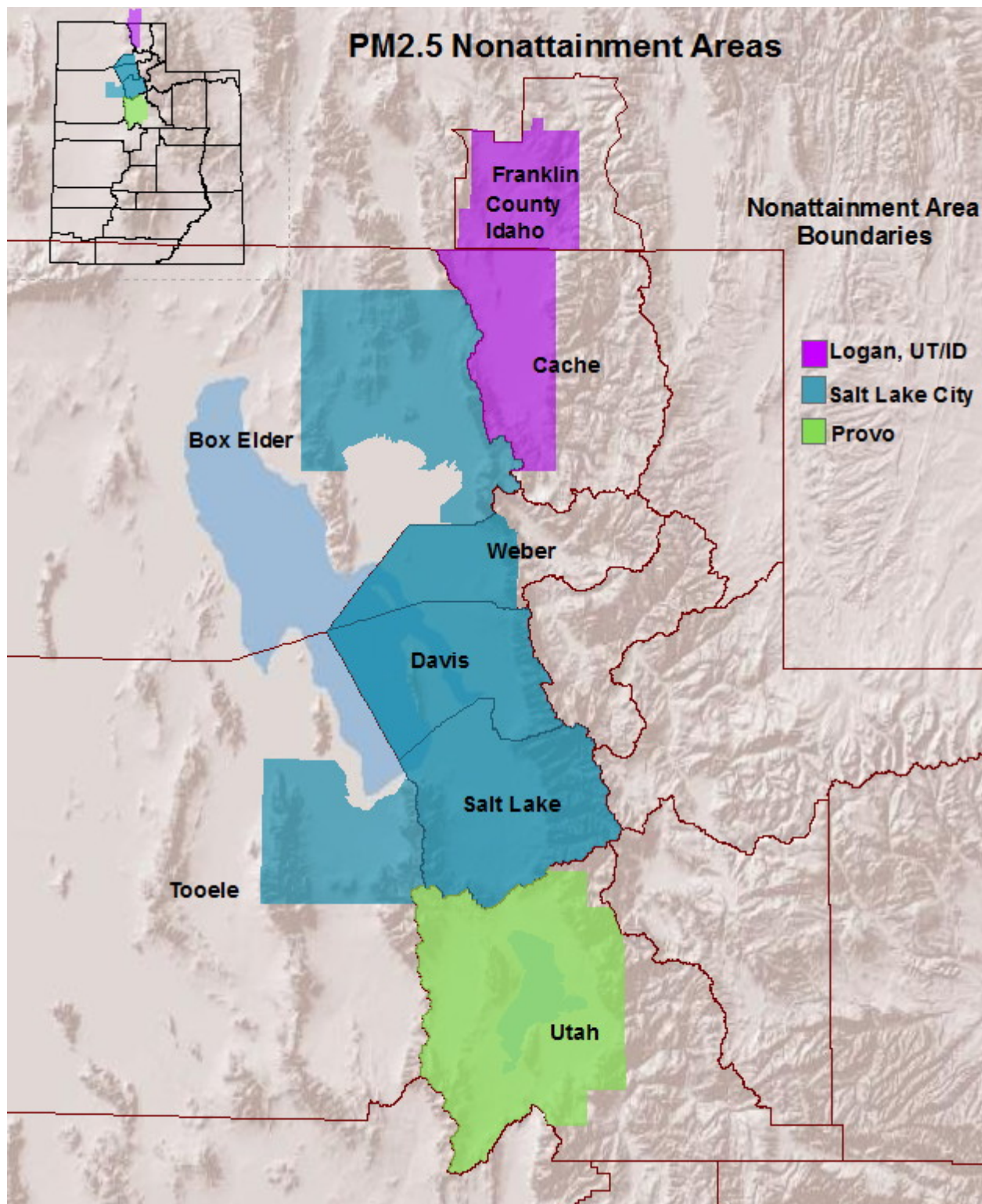
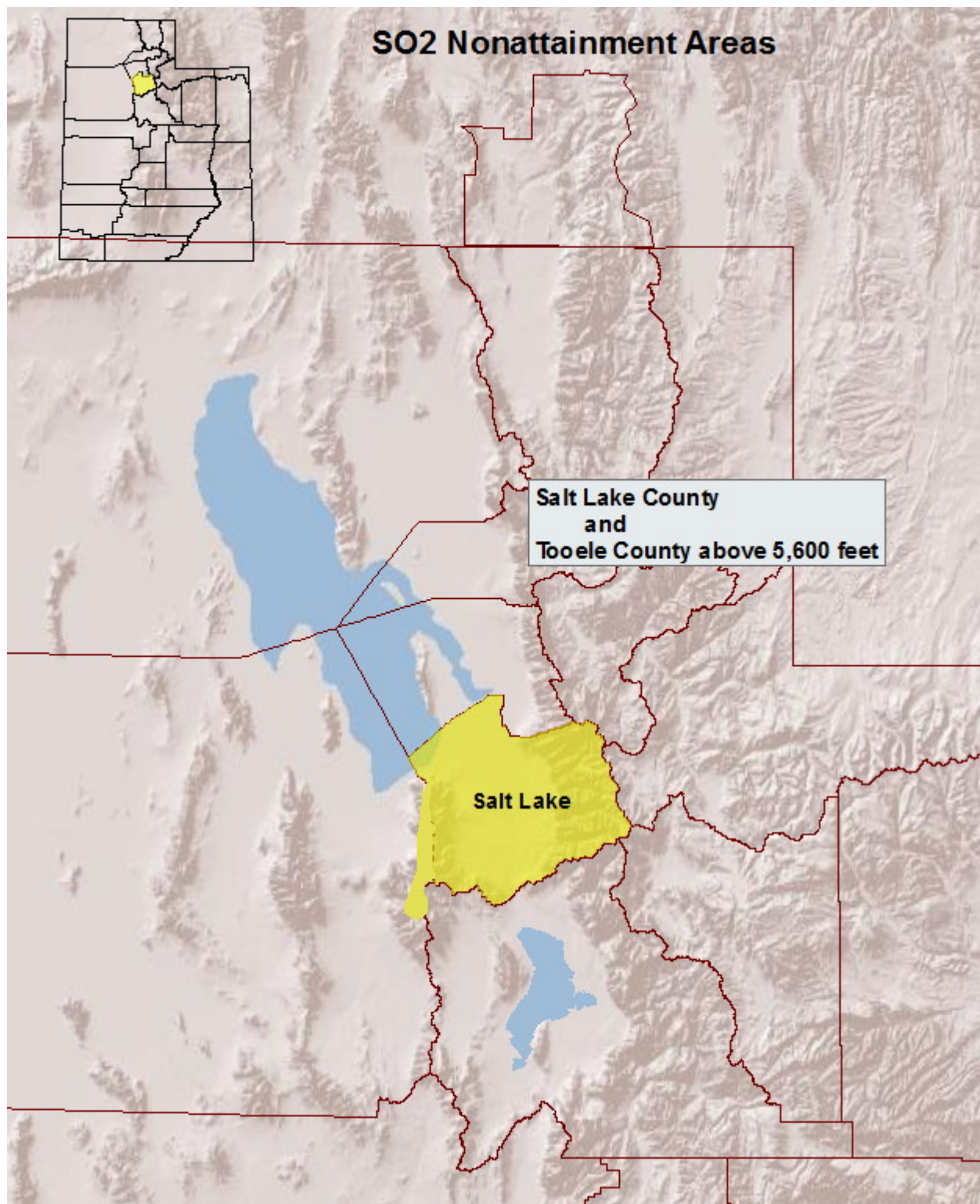
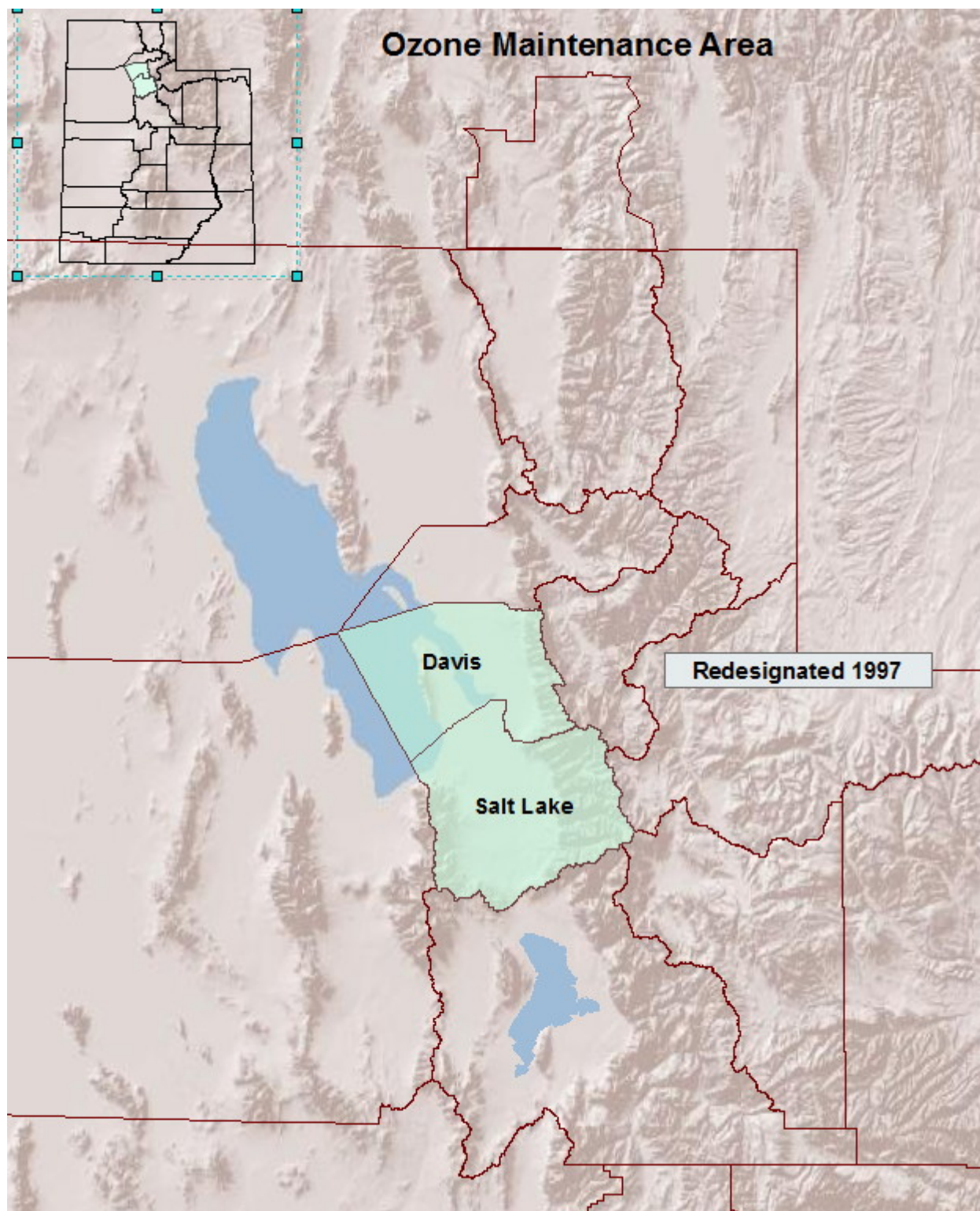


Figure 5: State of Utah Areas of Non-Attainment for PM-2.5



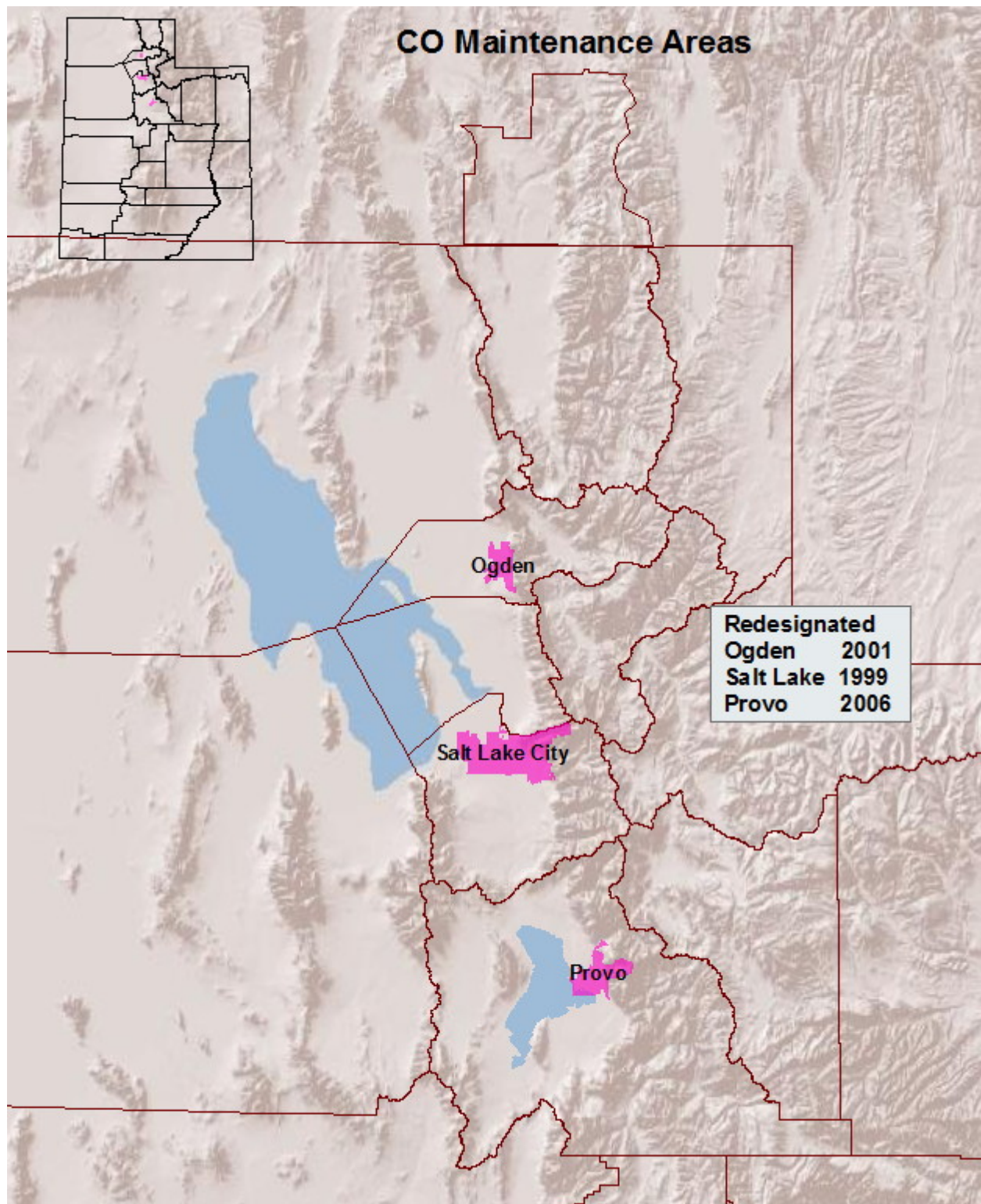


**Figure 6: State of Utah Areas of Non-Attainment for SO<sub>2</sub>**



**Figure 7: State of Utah Maintenance Areas for Ozone**





**Figure 8: State of Utah Maintenance Areas for CO**

Table 2 presents annual emission estimates for criteria pollutants and volatile organic compounds (VOCs) for Box Elder County. These estimates were based on the most recent data, the DAQ triennial inventory for calendar year 2008 (DAQ 2012).

Location	Emissions By Pollutant (tons/year)					
	CO	NOx	PM-10	PM-2.5	SOx	VOC
Box Elder County	49,198	6,089	5,724	1,652	191	40,140

**Table 2: Baseline Air Pollutants**

The existing missile storage facilities are heated by natural gas fired boilers. Table 3 presents annual emission estimates for heating the existing facilities.

Data Assumptions						
Equipment Type	Natural Gas Emission Factor (pounds/MMSCF)					
	VOC	CO	NOx	PM10	HAPs	SOx
Natural Gas Heating	5.5	40.0	94.0	7.6	0.01	0.6
Conversion Factors						
	Calculate Annual Fuel Consumption					
	VOC	CO	NOx	PM10	HAPs	SOx
Square Feet	217,000	217,000	217,000	217,000	217,000	217,000
BTU per hour per square foot	19	19	19	19	19	19
Heating hours per year	5,000	5,000	5,000	5,000	5,000	5,000
Million BTU per year	20,615	20,615	20,615	20,615	20,615	20,615
MMSCF per year	20.1	20.1	20.1	20.1	20.1	20.1
Operate Existing Igloos						
Equipment Type	Natural Gas Emissions (pounds)					
	VOC	CO	NOx	PM10	HAPs	SOx
Natural Gas Heating	110	802	1885	152	0.2	12
<b>TOTAL ESTIMATED EMISSIONS (pounds/year)</b>	110	802	1885	152	0.2	12
<b>TOTAL ESTIMATED EMISSIONS (tons/year)</b>	0.06	0.40	0.94	0.08	0.00	0.01
<i>Notes:</i>						
MMSCF = Million Standard Cubic Feet, and BTU = British Thermal Unit						
1 cubic foot natural gas = 1,028 BTU						
Source: <a href="http://www.eia.doe.gov/kids/energyfacts/science/energy_calculator.html#natgascalc">http://www.eia.doe.gov/kids/energyfacts/science/energy_calculator.html#natgascalc</a>						
Office Space (as opposed to warehouse space): 15-45 BTU per hour per square foot						
There are approximately 5,000 heating hours in an average year						
Source: Dale R. Scott, P.E., SAIN Engineering Associates, Inc., 75 CES/CEOSEE, Hill AFB, UT						
Assume 30 BTU per hour per square foot for new construction, offices						
Warehouses use approx. 63 percent compared to offices, = 19 BTU per hour per square foot						
<a href="http://www.eia.doe.gov/emeu/consumptionbriefs/cbecs/pbaweb/site/summarytable.htm">http://www.eia.doe.gov/emeu/consumptionbriefs/cbecs/pbaweb/site/summarytable.htm</a>						
Emission factors: EPA values for residential furnaces						
For natural gas, SOx assumed equal to SO2						
Area from Everett Reynolds, 75 CEG/CEP, Hill AFB, UT: 31 igloos, average 7,000 ft2 each						

**Table 3: Existing Operational Air Emissions**

There are no other existing operational air emissions related to storing missiles in the MSA.



### **3.3.2 Solid and Hazardous Wastes**

In general, hazardous wastes include substances that, because of their concentration, physical, chemical, or other characteristics, may present substantial danger to public health or welfare or to the environment when released into the environment or otherwise improperly managed.

Potentially hazardous and hazardous wastes generated at Oasis are managed as specified in the *Hill AFB Hazardous Waste Management Plan* with oversight by personnel from the Environmental Management Division and Defense Reutilization and Marketing Office (DRMO). Hazardous wastes at Oasis are properly stored during characterization, and then manifested and transported off site for treatment and/or disposal.

There are no existing solid and hazardous wastes related to storing missiles in the MSA.

### **3.3.3 Biological Resources**

No federal or state endangered or threatened species are known to occur on properties managed by Hill AFB (Hill 2007b) and no likely habitat for any such species would be disturbed by the proposed action. Wildlife species that are federally listed, candidates for federal listing, or for which a conservation agreement is in place automatically qualify for the Utah sensitive species list. The additional species on the Utah sensitive species list, wildlife species of concern (SOC), are those species for which there is credible scientific evidence to substantiate a threat to continued population viability. There are no wetlands or floodplains affected by the alternatives discussed in this document.

The Burrowing owl (*Athene cunicularia*) is a SOC and could be found in or near the MSA due to the terrain, soil types, and vegetation composition. The Burrowing owl nests in different burrows every year, and such locations are therefore unpredictable. At times, birds are found nesting in and on the missile storage facilities, but it is not desired that birds nest in these locations.

Three soil types exist in and near the MSA including Timpie Silt Loam, Tooele Fine Sandy Loam, and Cliffdown. All three of these soil types are represented by the Shadscale habitat. The dominant vegetation would typically be Shadscale (*Atriplex confertifolia*), Bud sage (*Artemisia spinescens*), Winterfat (*Ceratoides lanata*), Sandberg bluegrass (*Poa scabrella*), Bottlebrush squirreltail (*Elymus elymoides*), Indian ricegrass (*Achnatherum hymenoides*), and Gooseberryleaf globemallow (*Sphaeralcea grossulariifolia*).

Because this area has been previously cleared, disturbed, and burned by numerous fire events, the natural sagebrush habitats have been degraded to a community of grasses, forbs, and invasive species. The vegetation is predominately weedy, consisting of Cheatgrass (*Bromus tectorum*), Tumbling mustard (*Sisymbrium altissimum*), Halogeton (*Halogeton glomeratus*), Russian thistle (*Salsola kali*), and Mexican summer cyprus (*Kochia scoparia*). There are some native plants present as listed above, but undesirable species dominate at this time.

### **3.3.4 Water Quality**

No surface water bodies are present within the MSA or the surrounding areas. Precipitation is usually short-lived and generates only small quantities of water in this arid environment (approximately five inches per year).

Groundwater pumped from wells at Oasis contains from 5,000 to 10,000 parts per million (ppm) of total dissolved solids, which makes the water unsuitable for human consumption or other uses without treatment. This groundwater is treated using a reverse osmosis system. The major constituents are calcium, potassium, magnesium, and sodium bicarbonate.

### **3.3.5 Cultural Resources**

Not all cultural resources belong to the more restricted class of historic properties. A historic property as defined in 36 CFR 800.16(1)(1) is any prehistoric or historic district, site, buildings, structure, or object included in, or eligible for inclusion in, the (NRHP maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to a federally recognized tribe (or as applicable, Native Hawaiian organization) and that meet the NRHP criteria.

The area of potential effect (APE) as defined in 36 CFR 800.16(d) means the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The APE is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking. An undertaking, as defined in 36 CFR 800.16(y), means that a project, activity, or program is funded in whole or in part under the direct or indirect jurisdiction of a federal agency, including those carried out by or on behalf of a federal agency; those carried out with federal financial assistance; and those requiring a federal permit, license, or approval.

The APE for the proposed action includes 782 acres within the MSA and another (approximately) 100 acres for a water tank, water lines, and improved access roads. A cultural resources inventory of the APE has been completed (Fisher 2011). Cultural resources in the APE consist of 31 ammunition storage facilities within the MSA that have been determined eligible for listing on the NRHP for their role during the Cold War, and which are still used for missile and propellant storage and testing. The structures in the MSA were built in several temporal clusters: 1964, 1967, 1976, 1977 and 1978. Due to the specialized nature of these facilities and the continued use and critical nature of their function, their integrity has remained intact and unchanged. Utah's SHPO concurred with these determinations on May 29, 2013 (Appendix B).

#### **Storage Facilities**

Each of these structures can hold eight second-stage motor segments for Peacekeeper missiles. These structures first stored Peacekeeper motors on a short-term basis, until they were ready for use in missiles. The structures were then used to store Minutemen motors that had reached the end of their useful life and required long-term storage. Each facility is equipped with eight sets of steel rails that allow the motors to be moved from the front of the facility to the back. Eight

sets of double steel loading doors are situated at the front of each set of rails where an impaler is located. The impaler was installed to split and destroy the rocket motor in the unlikely event that it accidentally fired and was thrust forward. Were the motor to ignite, the impaler ensured that the solid fuel load would be broken up in the bay, where it would burn.

#### *Rocket Assembly Test Facilities*

These structures were used for the storage of Minuteman first stage motors. They are among the thermally controlled missile storage structures constructed in 1964 as part of the static test complex wherein rocket motors were monitored to determine their functional capability when stored in prescribed temperatures varying between -65 degrees Fahrenheit to 200 degrees Fahrenheit. One of these structures (Building 30260) was used for cryogenic or deep-freeze testing. They were hardened structures meant to contain an explosion should the propellants inside the motor assemblies explode.

#### *Ground Level Bombs/Propellant Storage Facilities*

These structures were constructed to store high explosive materials (such as C-4) and to store material that remained from propellant studies of missile motors. Each of these building sits on grade. Each interior consists of two bays, plus a central area for electrical and heating components. At each bay entrance is a 13 foot square anteroom lined with what appears to be black pumice (perhaps a type of insulation). Entrance to either bay is through doublewide steel doors.

### **3.4 Description of Relevant Pre-Existing Environmental Factors**

During scoping discussions and subsequent analysis, no pre-existing environmental factors (e.g., hurricanes, tornados, floods, droughts) were identified for the proposed action.

### **3.5 Description of Areas Related to Cumulative Effects**

For air quality, the area related to cumulative effects would include Box Elder County.

For solid and hazardous wastes, biological resources, water quality, and cultural resources, the area related to cumulative effects would be the North Range.

## 4.0 ENVIRONMENTAL CONSEQUENCES

### 4.1 Introduction

This section discusses effects to the resources that were identified for detailed analysis in Section 1.7.2, and for which existing conditions were presented in Section 3.3. For each of these resources, the following analyses are presented:

- direct, indirect, and cumulative effects of no action (Alternative A); and
- direct, indirect, and cumulative effects of the proposed action (Alternative B).

### 4.2 Predicted Effects to Relevant Affected Resources

#### 4.2.1 Predicted Effects to Air Quality

##### 4.2.1.1 Alternative A: No Action

As explained in Section 3.3.1, there are no existing air emissions. The no action alternative would have no direct effects, no indirect effects, and no cumulative effects.

##### 4.2.1.2 Alternative B: Proposed Action

#### Direct Effects Due to Construction

**Fugitive Dust:** Fugitive emissions from construction activities would be controlled according to UAC Section R307-205, *Emission Standards: Fugitive Emissions and Fugitive Dust* and the Hill AFB *Fugitive Dust Plan*. Good housekeeping practices would be used to maintain construction opacity at less than 20 percent. Haul roads would be kept wet. Any soil that is deposited on nearby paved roads by construction vehicles would be removed from the roads and either returned to the site or placed in an appropriate disposal facility.

**Heavy Equipment:** The internal combustion engines of heavy equipment would generate air emissions. Based on projected military schedules, the replacement facilities would be constructed over a 20-year time period. Assumptions and estimated emissions for constructing the proposed action are listed in Tables 4-6.

**Asbestos:** Prior to demolition of any facilities, a detailed asbestos survey would be performed by Hill AFB employees and the results incorporated into specifications for the demolition contracts. Each asbestos abatement contractor would be verified by the Hill AFB asbestos shop as qualified to perform regulated asbestos abatement projects, and both the company and individual workers would possess all required certifications to perform the assigned tasks. Prior to beginning any asbestos abatement efforts, a notification of at least 10 working days would be provided to DAQ if required. Because all work would be performed in accordance with standards set by EPA and DAQ, there would be no effects to air quality associated with asbestos abatement.

Data Assumptions							
Equipment Type	Emission Factor (lb/hr)						
	CO	NOx	PM-10	PM-2.5	SO <sub>2</sub>	VOC	
Diesel Water Truck	1.37	3.63	0.27	0.26	0.49	0.29	
Diesel Dump Truck	1.37	3.63	0.27	0.26	0.49	0.29	
Diesel Excavator	0.86	3.04	0.21	0.21	0.49	0.22	
Demolish Existing Igloos							
EQUIPMENT	HOURS	Emissions (lb)					
TYPE	OF USE	CO	NOx	PM-10	PM-2.5	SO <sub>2</sub>	VOC
Diesel Water Truck	372	509.3	1350.7	100.9	98.4	182.1	108.3
Diesel Dump Truck	744	1018.6	2701.5	201.7	196.8	364.1	216.5
Diesel Excavator	744	639.7	2263.5	157.5	152.5	364.1	167.3
TOTAL ESTIMATED EMISSIONS (lb)		2167.6	6315.7	460.1	447.8	910.3	492.1
TOTAL ESTIMATED EMISSIONS (tons)		1.08	3.16	0.23	0.22	0.46	0.25

Emission factors based on US Department of Homeland Security modeling, which used EPA's NONROAD2005 model  
Hours of use based on estimates from Everett Reynolds, 75 CEG/CEP project manager

**Table 4: Predicted Air Emissions, Demolition**

Data Assumptions							
Equipment Type	Emission Factor (lb/hr)						
	CO	NOx	PM-10	PM-2.5	SO <sub>2</sub>	VOC	
Diesel Water Truck	1.37	3.63	0.27	0.26	0.49	0.29	
Diesel Dump Truck	1.37	3.63	0.27	0.26	0.49	0.29	
Diesel Excavator	0.86	3.04	0.21	0.21	0.49	0.22	
Diesel Graders	0.90	3.13	0.22	0.21	0.49	0.23	
Construct Roads and Water System							
EQUIPMENT	HOURS	Emissions (lb)					
TYPE	OF USE	CO	NOx	PM-10	PM-2.5	SO <sub>2</sub>	VOC
Diesel Water Truck	640	876.2	2323.8	173.5	169.3	313.2	186.2
Diesel Dump Truck	2560	3504.8	9295.4	694.2	677.3	1252.9	745.0
Diesel Excavator	1280	1100.5	3894.2	270.9	262.4	626.5	287.8
Diesel Graders	3840	3454.0	12012.9	838.1	812.7	1879.4	888.9
TOTAL ESTIMATED EMISSIONS (lb)		8935.6	27526.4	1976.8	1921.7	4072.0	2108.0
TOTAL ESTIMATED EMISSIONS (tons)		4.47	13.76	0.99	0.96	2.04	1.05

Emission factors based on US Department of Homeland Security modeling, which used EPA's NONROAD2005 model  
Hours of use based on estimates from Everett Reynolds, 75 CEG/CEP project manager

**Table 5: Predicted Air Emissions, Construct Roads and Water System**

Data Assumptions							
Equipment Type		Emission Factor (lb/hr)					
		CO	NOx	PM-10	PM-2.5	SO <sub>2</sub>	VOC
Diesel Water Truck		1.37	3.63	0.27	0.26	0.49	0.29
Diesel Dump Truck		1.37	3.63	0.27	0.26	0.49	0.29
Diesel Excavator		0.86	3.04	0.21	0.21	0.49	0.22
Diesel Cement & Mortar Mixers		1.53	4.81	0.32	0.31	0.48	0.40
Diesel Front End Loaders		1.03	3.31	0.23	0.22	0.49	0.25
Construct Missile Storage Igloos (20 Year Buildout)							
EQUIPMENT TYPE	HOURS OF USE	Emissions (lb)					
		CO	NOx	PM-10	PM-2.5	SO <sub>2</sub>	VOC
Diesel Water Truck	16860	23082.5	61218.9	4571.9	4460.4	8251.7	4906.4
Diesel Dump Truck	20232	27699.0	73462.7	5486.3	5352.5	9902.1	5887.7
Diesel Excavator	34120	29336.5	103806.0	7221.3	6995.6	16699.2	7672.6
Diesel Cement & Mortar Mixers	13488	20696.2	64943.3	4282.0	4192.8	6512.2	5441.7
Diesel Front End Loaders	20232	20740.8	66905.9	4683.4	4549.6	9902.1	5084.8
TOTAL ESTIMATED EMISSIONS (lb)		121555.1	370336.7	26244.9	25550.9	51267.3	28993.3
TOTAL ESTIMATED EMISSIONS (tons)		60.8	185.2	13.1	12.8	25.6	14.5
TOTAL ESTIMATED EMISSIONS (tons/year)		3.04	9.26	0.66	0.64	1.28	0.72
Emission factors based on US Department of Homeland Security modeling, which used EPA's NONROAD2005 model							
Hours of use based on estimates from Everett Reynolds, 75 CEG/CEP project manager							

**Table 6: Predicted Air Emissions, Construct Missile Storage Facilities**

Direct Effects Due to Operations

The proposed missile storage facilities would be heated by natural gas fired boilers. Table 7 presents annual emission estimates for heating the proposed facilities. The proposed missile storage operations would not be expected to generate any other air emissions.

Data Assumptions						
Equipment Type	Natural Gas Emission Factor (pounds/MMSCF)					
	VOC	CO	NOx	PM10	HAPs	SOx
Natural Gas Heating	5.5	40.0	94.0	7.6	0.01	0.6
Conversion Factors						
	Calculate Annual Fuel Consumption					
	1,637,760	1,637,760	1,637,760	1,637,760	1,637,760	1,637,760
Square Feet	19	19	19	19	19	19
BTU per hour per square foot	5,000	5,000	5,000	5,000	5,000	5,000
Heating hours per year	155,587	155,587	155,587	155,587	155,587	155,587
Million BTU per year	151.3	151.3	151.3	151.3	151.3	151.3
MMSCF per year						
Operate Proposed Igloos						
Equipment Type	Natural Gas Emissions (pounds)					
	VOC	CO	NOx	PM10	HAPs	SOx
Natural Gas Heating	832	6054	14227	1150	1.5	91
<b>TOTAL ESTIMATED EMISSIONS (pounds/year)</b>	832	6054	14227	1150	1.5	91
<b>TOTAL ESTIMATED EMISSIONS (tons/year)</b>	0.42	3.03	7.11	0.58	0.00	0.05
<i>Notes:</i>						
MMSCF = Million Standard Cubic Feet, and BTU = British Thermal Unit						
1 cubic foot natural gas = 1,028 BTU						
Source: <a href="http://www.eia.doe.gov/kids/energyfacts/science/energy_calculator.html#natgascalc">http://www.eia.doe.gov/kids/energyfacts/science/energy_calculator.html#natgascalc</a>						
Office Space (as opposed to warehouse space): 15-45 BTU per hour per square foot						
There are approximately 5,000 heating hours in an average year						
Source: Dale R. Scott, P.E., SAIN Engineering Associates, Inc., 75 CES/CEOSEE, Hill AFB, UT						
Assume 30 BTU per hour per square foot for new construction, offices						
Warehouses use approx. 63 percent compared to offices, = 19 BTU per hour per square foot						
<a href="http://www.eia.doe.gov/emeu/consumptionbriefs/cbecs/pbaweb site/summarytable.htm">http://www.eia.doe.gov/emeu/consumptionbriefs/cbecs/pbaweb site/summarytable.htm</a>						
Emission factors: EPA values for residential furnaces						
For natural gas, SOx assumed equal to SO2						
Area from US Navy project description, Hill AFB site plan: 853 igloos, average 1,920 ft2 each						

**Table 7: Predicted Operational Air Emissions**

#### Conformity Applicability Determination

Due to local non-attainment status, a conformity applicability determination (compliant with 40 CFR 93.153 and UAC R-307-115) was completed for the proposed action. The proposed action would be required to demonstrate conformity with the CAA unless an applicability determination shows that it is exempt from conformity, in this case, due to having annual emissions below the thresholds established in 40 CFR 93.153(b)(1) and (b)(2). Predicted air emissions due to construction and due to operations were all much less than the established threshold values.

#### Indirect Effects

During scoping and the detailed analysis, no indirect effects related to air quality were identified for the proposed action.

### Cumulative Effects

**Construction:** Comparing the magnitude of predicted construction-related air emissions to existing emissions for Box Elder County (Table 2), there would not be significant cumulative effects to air quality associated with constructing the proposed action.

**Operations:** Comparing the magnitude of predicted operational air emissions to existing emissions for Box Elder County (Table 2), there would not be significant cumulative effects to air quality associated with operating the proposed action.

#### **4.2.1.3 Alternative C: Water Tank West of the MSA**

The acreage that would be disturbed by Alternative C is within two percent of the acreage that would be disturbed by the proposed action. Similar to the proposed action, fugitive dust would be controlled during construction. All other attributes of Alternative C are identical to the proposed action. With respect to air quality, the predicted effects for Alternative C would be the same as those discussed for the proposed action.

### **4.2.2 Predicted Effects to Solid and Hazardous Waste**

#### **4.2.2.1 Alternative A: No Action**

Continuing the current missile storage operations would not be expected to generate solid or hazardous wastes. With respect to solid and hazardous waste, the no action alternative would have no direct effects, no indirect effects, and no cumulative effects.

#### **4.2.2.2 Alternative B: Proposed Action**

### Direct Effects Due to Construction

**Waste Generation:** During the proposed construction activities, solid wastes expected to be generated would be construction debris consisting mainly of concrete, metal, and wood. These items would be treated as uncontaminated trash and recycled when feasible. It is possible that equipment failure or a spill of fuel, lubricants, or construction-related chemicals could generate solid or hazardous wastes. In the event of a spill of regulated materials, Hill AFB environmental managers and their contractors would comply with all federal, state, and local spill reporting and cleanup requirements.

**Demolition Debris:** Any asbestos detected during the detailed asbestos survey and subsequently removed during an abatement action would be disposed in accordance with permit requirements at an EPA-approved asbestos landfill that is approved to accept both friable and non-friable asbestos. Loose flakes of lead-based paint (confirmed to contain lead by on-site inspections using a portable X-ray fluorescence analyzer) would be scraped, collected, and properly disposed at a permitted hazardous waste disposal facility. Dielectric fluid from any transformers or light ballasts suspected of containing PCBs would be tested, and the equipment would be properly disposed as either a regulated waste (PCB content of 50 ppm or more) or as uncontaminated trash (PCB content less than 50 ppm).



The uncontaminated demolition debris and lead-based paint that is still affixed to surfaces would all be disposed off base at a local construction debris (Class VI) landfill. Class VI landfills are allowed to accept construction and demolition waste, including: lead-based paint that is still affixed to surfaces and a quantity of 10 PCB-containing light ballasts per structure.

Thermostats that contain mercury switches would be collected by technicians from the Hill AFB facility systems flight (75 CES/CEOFSH) prior to demolition activities. Any thermostats not saved for local reuse would be delivered to DRMO, which has an office on Hill AFB. DRMO would send the thermostats to be recycled, and a waste stream would not be created.

***Waste Management:*** Hill AFB personnel have specified procedures for handling construction-related solid and hazardous wastes in their engineering construction specifications. The procedures are stated in Section 01000, General Requirements, Part 1, General, Section 1.24, Environmental Protection. All solid non-hazardous waste is collected and disposed or recycled on a routine basis. Hazardous wastes are stored at sites operated in accordance with the requirements of 40 CFR 265. The regulations require the generator to characterize hazardous wastes with analyses or process knowledge. Suspect waste is labeled as hazardous waste and is safely stored while analytical results are pending or until sufficient generator knowledge is obtained. Hazardous wastes are eventually labeled, transported, treated, and disposed in accordance with federal and state regulations.

***Excavated Soils:*** There is no known soil contamination within the areas affected by the proposed action. However, excavations could potentially encounter contaminated soil. If unusual odors or soil discoloration were to be observed during any excavation or trenching necessary to complete the proposed action, the soil would be stored on plastic sheeting and the Hill AFB Environmental Restoration Branch (75 CEG/CEVR) would be notified. Any soil determined to be hazardous would be eventually labeled, transported, treated, and disposed in accordance with federal and state regulations. No soil would be taken off the North Range without prior 75 CEG/CEVR written approval.

#### *Direct Effects Due to Operations*

The proposed missile storage operations would not be expected to generate solid or hazardous wastes.

#### *Indirect Effects*

During scoping and the detailed analysis, no indirect effects related to solid and hazardous waste were identified for the proposed action.

#### *Cumulative Effects*

During scoping and the detailed analysis, no significant cumulative effects related to solid and hazardous waste were identified for the proposed action.

#### **4.2.2.3 Alternative C: Water Tank West of the MSA**

With respect to solid and hazardous wastes, the predicted effects for Alternative C would be the same as those discussed for the proposed action.

### **4.2.3 Predicted Effects to Biological Resources**

#### **4.2.3.1 Alternative A: No Action**

Under the no action alternative, no additional effects to the project area would occur. As stated in Section 3.3.3, this area has been previously cleared, disturbed, and burned by numerous fire events. Human activities would continue in the area, such as operation of existing facilities and maintenance of habitat. Paved areas would remain, and unpaved areas would remain in their current, degraded condition. No other direct effects, indirect effects, or cumulative effects were identified for the no action alternative.

#### **4.2.3.2 Alternative B: Proposed Action**

##### *Direct Effects Due to Construction*

- **Construction:** Clearing, grading, and providing wider roads and missile storage facilities would disturb approximately 900 acres. Because the site is weedy and previously disturbed, negative effects to biological resources are not anticipated. The proposed action instead presents an opportunity to improve conditions by planting with a seed mix that meets DoD regulations for fire and safety concerns (flammability and height).
- **Best Management Practices:** Any habitat disturbed due to construction activities would be restored by restoration planting of fire resistant plants, native grasses, and native shrubs as outlined in the *Hill AFB Integrated Natural Resources Management Plan* (Hill 2007b).

No taking, killing, or harassing any species of migratory bird, including raptors, would be allowed. Since Burrowing owls nest in different locations each year, construction activities might temporarily discourage the owls from nesting in and near the MSA. Other wildlife that could be temporarily displaced are badgers and some rodent species. However, there is adequate habitat surrounding the MSA, on the UTTR and other surrounding lands, to adequately compensate for any habitat disruption in and near the MSA.

##### *Direct Effects Due to Operations*

The proposed missile storage operations would not be expected to affect biological resources.

##### *Indirect Effects*

During scoping and the detailed analysis, no indirect effects related to biological resources were identified for the proposed action.

### Cumulative Effects

Following the restoration activities discussed above, a portion of the 900 acres would remain disturbed by human activities. Wider roads and new missile storage facilities would create a minor loss of habitat, displacing reptiles, avian species, and mammals. The individuals using this small area would be expected to move to other nearby areas to obtain food and shelter. When taken in aggregate, no significant cumulative effects to biological resources were identified.

#### **4.2.3.3 Alternative C: Water Tank West of the MSA**

The acreage that would be disturbed by Alternative C is within two percent of the acreage that would be disturbed by the proposed action. With respect to biological resources, the predicted effects for Alternative C would be the same as those discussed for the proposed action.

#### **4.2.4 Predicted Effects to Water Quality**

##### **4.2.4.1 Alternative A: No Action**

Continuing the current missile storage operations would not be expected to affect water quality. With respect to water quality, the no action alternative would have no direct effects, no indirect effects, and no cumulative effects.

##### **4.2.4.2 Alternative B: Proposed Action**

### Direct Effects Due to Construction

Based on information provided by Hill AFB, the land area to be disturbed by the proposed construction activities would be approximately 900 acres in size. Hill AFB construction specifications would require the contractor to restore the land to a non-erosive condition. The proposed action would be covered under Utah's general construction permit rule for stormwater compliance. Prior to initiating any construction activities, this permit must be obtained and erosion and sediment controls must be installed according to a stormwater pollution prevention plan (SWPPP). The proponents would coordinate with the Hill AFB water quality manager (75CEV/CEGOC) for SWPPP approval prior to submitting an application for a Utah construction stormwater permit. Related to improving access roads, culverts would be extended as necessary so that existing drainage patterns are not altered.

Construction activities for the proposed action would not be expected to contact groundwater.

### Direct Effects Due to Operations

The proposed missile storage operations would not be expected to affect water quality.

### Indirect Effects

During scoping and the detailed analysis, no indirect effects related to water quality were identified for the proposed action.

### Cumulative Effects

Water quality would be protected during and after construction activities. There would be no significant cumulative water quality effects associated with the proposed action.

#### **4.2.4.3 Alternative C: Water Tank West of the MSA**

The acreage that would be disturbed by Alternative C is within two percent of the acreage that would be disturbed by the proposed action. With respect to water quality, the predicted effects for Alternative C would be the same as those discussed for the proposed action.

### **4.2.5 Predicted Effects to Cultural Resources**

#### **4.2.5.1 Alternative A: No Action**

Continuing the current missile storage operations would not be expected to affect cultural resources. With respect to cultural resources, the no action alternative would have no direct effects, no indirect effects, and no cumulative effects.

#### **4.2.5.2 Alternative B: Proposed Action**

### Direct Effects Due to Construction

The proposed action would require demolition of 31 existing ammunition storage facilities within the MSA that have been determined eligible for listing on the NRHP for their role during the Cold War. Such demolition would result in an adverse effect to historic properties as defined in 36 CFR 800.5(a)(1). The Hill AFB Cultural Resources Management Program has conducted Section 106 consultation with the Utah SHPO, 20 consulting American Indian Tribes, and provided notice to the Advisory Council on Historic Preservation (ACHP) regarding adverse effects associated with the proposed action (Appendix A). Adverse effects would be mitigated through measures agreed upon by the Air Force and the Utah SHPO as described in a Memorandum of Agreement (MOA), included as Appendix B.

- **Documentation:** Historic American Engineering Record (HAER), Level II documentation would be completed for Building 30213, representative of the facilities identified for demolition. The documentation would follow the Secretary of the Interior's *Standards and Guidelines for Architectural and Engineering Documentation, Historic American Buildings Survey (HABS)/HAER Standards* (Interior 1990) and include the following types of documentation.

Professional quality large format photographs of Building 30213 would be provided. These exterior and interior photographs would accurately record the structure. Photos would be stored in archival stable protective storage pages. The photographs would be numbered and labeled with the address and the date each photograph was taken, and these photographs would be keyed to a floor plan and site map. Photography would comply with the National Park Service's *Heritage Documentation Programs HABS/HAER/HALS Photography Guidelines* (National 2011).

Existing drawings of Building 30213 would either be photographed using large-format negatives or photographically reproduced on mylar sheets.

History and descriptions would be compiled using the outline format for manufacturing and industrial sites.

- ***Public Outreach:*** The HAER documentation of Building 30213, high quality digital photographs, and associated as-built drawings, would be posted on the Hill AFB Cultural Resources public outreach website. These materials would be inserted into a slide show situated on a map of Hill AFB-managed properties to show the location. No information would be posted that would create an unreasonable security risk or violate federal security laws or regulations. Any posted information would be removed if future federal security laws or regulations prohibit such posting.
- ***Intensive Level Survey (ILS) Form:*** An ILS form would be completed according to basic survey standards for Building 30213 and submitted to Utah's SHPO. The most relevant portions of the ILS form would be posted on the web site, subject to the security restrictions stated above.
- ***Unanticipated Discovery of Archaeological Deposits:*** The APE includes approximately 816 acres of land with negative findings regarding archaeological or other non-building-related cultural resources materials considered historic properties via 36 CFR 800.16(l)(1) or materials including those defined under applicable provisions of the Native American Graves Protection and Repatriation Act and the Archaeological Resources Protection Act. However, should unanticipated discoveries of archaeological deposits become evident at any time, the provisions for unanticipated discovery of archaeological deposits outlined in the applicable version of Hill AFB's Integrated Cultural Resources Management Plan would be implemented.

#### Direct Effects Due to Operations

The proposed missile storage operations would not be expected to affect cultural resources.

#### Indirect Effects

During scoping and the detailed analysis, no indirect effects related to cultural resources were identified for the proposed action.

#### Cumulative Effects

Effects to cultural resources would be mitigated as described earlier in this section. There would be no significant cumulative cultural resources effects associated with the proposed action.

#### **4.2.5.3 Alternative C: Water Tank West of the MSA**

With respect to cultural resources, the predicted effects for Alternative C would be the same as those discussed for the proposed action.

### 4.3 Summary Comparison of Predicted Environmental Effects

This section only applies to the alternatives considered in detail.

Issue	Alternative A No Action	Alternative B Proposed Action	Alternative C: Water Tank West of the MSA
Air Quality	Existing air emissions would continue for heating the missile storage facilities.	Qualified asbestos abatement contractors would prevent effects to air quality. Peak air emissions from construction would be less than 27 tons per year for each criteria pollutant as well as for VOCs. Fugitive dust would be controlled.  Operational air emissions would increase by 10 tons per year for the sum of all pollutants.  Conformity with the Clean Air Act was demonstrated.	Same effects as the proposed action.
Solid and Hazardous Waste	No effects were identified.	If contaminated building materials, soils or pavements are identified, they would be properly handled during the demolition and construction process. No effects were identified for operations.	Same effects as the proposed action.
Biological Resources	The area has been previously cleared, disturbed, and burned. There are some native plants, but undesirable species dominate.	During construction activities, Burrowing owls, badgers, and rodents could be temporarily displaced. Disturbed habitat would be restored. No effects were identified for operations.	Same effects as the proposed action.
Water Quality	No effects were identified.	Related to construction, water quality would be protected by implementing stormwater management practices. No effects were identified for operations.	Same effects as the proposed action.
Cultural Resources	No effects were identified.	Adverse effects were identified and mitigated through a memorandum of agreement with the Utah SHPO (Appendix B).	Same effects as the proposed action.

**Table 8: Summary Comparison of Predicted Environmental Effects**

## **5.0 LIST OF PREPARERS**

### Streamline Consulting, LLC

1713 N. Sweetwater Lane, Farmington UT 84025

Randal B. Klein, P.E., Project Manager, (801) 451-7872

### Hill AFB Civil Engineer Group, Environmental Division, 75 CEG/CENE

Sam Johnson, Environmental Impact Analysis Process Manager, (801) 775-3653

## **6.0 LIST OF PERSONS AND AGENCIES CONSULTED**

### Hill AFB Civil Engineer Group, Environmental Division, 75 CEG/CEN

Sam Johnson, Environmental Impact Analysis Process Manager, (801) 775-3653

Russ Lawrence, Natural Resources Manager, (801) 775-6972

### Hill AFB Civil Engineer Organizations, 75 CEG and 75 CES

Roger Montoya, Director, 75th Range Support Division, (801) 777-1546

Hal Sagers, Civil Engineering Superintendent, (801) 777-1547

Everett Reynolds, Project Manager, (801) 777-2568

Troye Davis, Asbestos, Lead-Based Paint Shop Supervisor, (801) 586-7094

### Air Force Civil Engineer Center (AFCEC), Hill AFB Installation Support Team

Jaynie Hirschi, Archaeologist, (801) 775-6920

### US Navy Strategic Systems Program Office

Bill Helmrich, Missile Branch Engineering Manager, (202) 433-5852

### Cardno EM-Assist, Inc.

Mark Kaschmitter, Air Regulatory Analysis, (801) 775-2359

### Utah Division of Air Quality, State Implementation Plan Section

Colleen Delaney, Environmental Scientist, (801) 536-4248



## 7.0 REFERENCES

**CFR:** *Code of Federal Regulations*, US Government Printing Office, Office of the Federal Register, current versions, which are located at:

<http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&tpl=%2Findex.tpl>

29 CFR 1910, *Occupational Safety And Health Standards*

32 CFR 989, *Environmental Impact Analysis Process*

40 CFR 265, *Interim Status Standards For Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities*

40 CFR 1500-1508, *Council on Environmental Quality*

40 CFR 93.154, *Determining Conformity of Federal Actions to State or Federal Implementation Plans*

**DAQ 2012:** *Division of Air Quality Annual Report for 2011*, Utah Division of Air Quality, January, 2012.

**DDESB 2010:** *Approved Protective Construction*, Department of Defense Explosives Safety Board, 2010.

**Fisher 2011:** *An Intensive Cultural Resources Inventory For The Utah Test and Training Range - North Oasis Missile Storage Area Inventory Project In Box Elder County, Utah*, Fisher, Rachael, December, 2011.

**Hill AFB:** *Construction Specifications, Section 01000, General Requirements, Part 1, General, Section 1.24, Environmental Protection*, Hill AFB, current version.

**Hill 2007a:** *Integrated Cultural Resources Management Plan*, Hill AFB, 2007.

**Hill 2007b:** *Integrated Natural Resources Management Plan*, Hill AFB, 2007.

**Hill 2013:** *Summary Report: Missile Storage Area, Utah Test and Training Range - North, Hill Air Force Base, Utah*, (Cultural Resources Summary by Jaynie Hirschi, Cultural Resources Program Manager), February, 2013.

**Interior 1990:** *Secretary of the Interior's Standards and Guidelines for Architectural and Engineering Documentation: HABS/HAER Standards*, Interior Department, 1990.

**National 2011:** *Heritage Documentation Programs, HABS/HAER/HALS Photography Guidelines*, National Park Service, 2011.

**US 2010:** *Treaty Between the United States of America and the Russian Federation on Measures for the Further Reduction and Limitation of Strategic Offensive Arms*, United States of America, April, 2010.

**USAF 2003:** *Planning and Programming Appropriated Funded Maintenance, Repair, and Construction Projects*, USAF, 2003.

**USAF 2009:** *Air Force Demolition Policy*, USAF, 2009.

## APPENDIX A

ADVISORY COUNCIL ON HISTORIC PRESERVATION, UTAH STATE HISTORIC  
PRESERVATION OFFICE, AND AMERICAN INDIAN TRIBAL CONSULTATION



DEPARTMENT OF THE AIR FORCE  
75TH CIVIL ENGINEER GROUP (AFMC)  
HILL AIR FORCE BASE UTAH

15 May 2013

Dr. Joseph A. Martone  
Chief, Environmental Quality Branch  
75 CEG/CENE  
7274 Wardleigh Road  
Hill Air Force Base Utah 84056-5137



Mr. Chris Hansen  
Ms. Lori Hunsaker  
State Historic Preservation Office  
300 Rio Grande  
Salt Lake City Utah 84101

Dear Mr. Hansen and Ms. Hunsaker

Hill Air Force Base (AFB) is proposing to construct new ammunition storage and related facilities and improve access roads within the Missile Storage Area (MSA) at the Utah Test and Training Range-North. Hill AFB has determined the proposed project constitutes an undertaking as defined in 36 CFR §800.16(y). The Area of Potential Effect (APE) is approximately 1027 acres. To facilitate the new construction, 31 ammunition storage facilities are proposed for demolition. These 31 facilities have been determined eligible for listing in the National Register of Historic Places (NRHP) for their significant role in the Cold War.

P-III Associates, Inc. (P-III) and Hill AFB conducted archaeological inventories within the APE, as detailed in the enclosed reports, *An Intensive Cultural Resources Inventory for the Utah Test and Training Range-North Oasis Missile Storage Area Inventory Project in Box Elder County Utah* (U-11-PD-0866m) and its *Addendum* (Attachment 1). The P-III inventory encompassed 810 acres of the APE; the Hill AFB inventory covered six acres of the APE. No archaeological sites were identified within the APE during these inventories. The remaining 211 acres had been previously inventoried in relation to other projects. While numerous archaeological sites were documented during these earlier inventories, none extend into the current APE.

Of the 31 facilities within the APE proposed for demolition, 16 have been previously mitigated for demolition through the United States Air Force Mitigation as outlined in II.C of the August 2006 *Program Comment for World War II and Cold War Era (1939-1974) Ammunition Storage Facilities* (Attachment 2). Fifteen of the structures are not included in this Program Comment because they were constructed outside the time frame or do not have the appropriate Real Property Category Code as listed in the Program Comment.

Although other options have been considered, Hill AFB has been unable to find an acceptable alternative to the demolition of these buildings. These buildings do not meet current safety standards for storing missile motors required for existing and upcoming mission activities. In addition, access roads for transport of missile motors within the MSA are deficient, and fire suppression capabilities are inadequate.

Building surveys and assessments, including Utah State Historic Site Forms, have been completed for the affected historic properties or their representative types. Please refer to the attached summary report for further information on the MSA and its associated facilities (Attachment 3).

Hill AFB, in consultation with your office, has determined the proposed undertaking will have an adverse effect to historic properties as defined in 36 CFR §800.5(a)(2)(i). Hill AFB has developed a Memorandum of Agreement (MOA) following the parameters established under 36 CFR §800.6(c) with stipulations to mitigate the adverse effects caused by the undertaking. On 1 March 2013, Hill AFB notified and invited the Advisory Council on

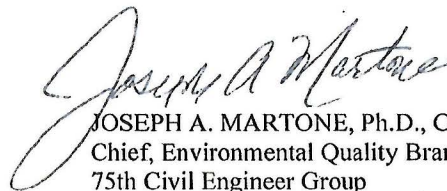
Historic Preservation (ACHP) to participate in the MOA as specified in 36 CFR §800.6(a)(1). The ACHP did not respond.

As per our consultation, we hereby submit the attached MOA for acceptance and signature as specified in 36 CFR §800.6(c)(1)(i) (Attachment 4). Please send the MOA signature page back to the following address:

Jaynie Hirschi  
75 CEG/CENE  
7274 Wardleigh Rd, Bldg 5, Bay U  
Hill Air Force Base UT 84056-5137

A final copy of the MOA will be sent to you for your records. Should you or your staff have any questions, please contact Ms. Jaynie Hirschi, Archaeologist, AFCEC/CZO at (801) 775-6920 or jaynie.hirschi@hill.af.mil.

Sincerely



JOSEPH A. MARTONE, Ph.D., CIH, QEP, GS-13, DAF  
Chief, Environmental Quality Branch  
75th Civil Engineer Group

4 Attachments:

1. *An Intensive Cultural Resources Inventory for the Utah Test and Training Range-North Oasis Missile Storage Area Inventory Project in Box Elder County Utah (U-11-PD-0866m) and Addendum*
2. Program Comment
3. MSA Summary Report
4. MOA

cc:

Blackfoot Indian Tribe, w/o attachments  
Confederated Tribes of the Goshute Indian Reservation, w/o attachments  
Crow Tribe of Montana, w/o attachments  
Duckwater Shoshone Tribe, w/o attachments  
Eastern Shoshone Tribe, w/o attachments  
Ely Shoshone Tribe, w/o attachments  
Hopi Tribe, w/o attachments  
Navajo Nation, w/o attachments  
Northern Arapaho Tribe, w/o attachments  
Northwestern Band of the Shoshone Nation, w/o attachments  
Paiute Indian Tribe of Utah, w/o attachments  
Pueblo of Zuni, w/o attachments  
San Juan Southern Paiute Tribe, w/o attachments  
Shoshone-Bannock Tribes of the Fort Hall Reservation, w/o attachments  
Shoshone-Paiute Tribes of the Duck Valley Reservation, w/o attachments  
Skull Valley Band of Goshute Indians, w/o attachments  
Te-Moak Tribe of Western Shoshone Indians, w/o attachments  
Ute Indian Tribe, w/o attachments  
Ute Mountain Ute Tribe, w/o attachments  
Wells Band of Western Shoshone, w/o attachments

no historic properties  
significant to the  
Hopi Tribe affected

Margaret

for  
Recommendation  
5-22-13

APPENDIX B

MEMORANDUM OF AGREEMENT

**MEMORANDUM OF AGREEMENT  
BETWEEN  
HILL AIR FORCE BASE  
AND  
THE UTAH STATE HISTORIC PRESERVATION OFFICER  
PURSUANT TO 36 CFR § 800  
REGARDING THE  
DEMOLITION OF THIRTY-ONE  
AMMUNITION STORAGE FACILITIES,  
HILL AIR FORCE BASE, UTAH**

**WHEREAS**, Hill Air Force Base (AFB) is proposing to construct new ammunition storage and related facilities and improve access roads within the Missile Storage Area (MSA) at the Utah Test and Training Range-North (hereinafter, the “Undertaking”); and

**WHEREAS**, construction of the new facilities and access road improvement will require demolition of 31 existing ammunition storage facilities (Facilities) (Appendix A) within the MSA that have been determined eligible for listing on the National Register of Historic Places (NRHP); and

**WHEREAS**, Hill AFB has determined the Facilities do not meet current safety standards for storing missile motors required for existing and upcoming mission activities, access roads for transport of missile motors within the MSA are deficient, and fire suppression capabilities are inadequate. Therefore, the Undertaking is necessary to provide safe and adequate facilities for missile motor storage, improvement of access roads to the MSA, and a critical fire suppression system. In addition, the Undertaking complies with an Air Force Materiel Command initiative that limits adding square footage at Air Force facilities; and

**WHEREAS**, Hill AFB has determined the Undertaking will have an adverse effect on historic properties, and the total Area of Potential Effect (APE) for the Undertaking is approximately 816 acres of land; and

**WHEREAS**, Hill AFB has determined that 16 of the 31 Facilities (Appendix A) have been mitigated for demolition through the United States Air Force Mitigation as outlined in II.C of the August 2006 *Program Comment for World War II and Cold War Era (1939-1974) Ammunition Storage Facilities* (Appendix B); and

**WHEREAS**, Hill AFB has consulted with the Utah State Historic Preservation Office (SHPO) in accordance with 36 CFR § 800.6 (b); and

**WHEREAS**, in accordance with 36 CFR § 800.6 (a)(1), Hill AFB notified the Advisory Council on Historic Preservation (ACHP) of its adverse effect determination on 28 February 2013, and the ACHP has chosen not to participate in the consultation pursuant to 36 CFR § 800.6 (a)(1)(iii); and

**WHEREAS**, Hill AFB, in consultation with the Utah SHPO, and after consideration of Hill AFB requirements as well as public benefit, has determined an appropriate mitigation that will be pursued; and

**NOW, THEREFORE**, Hill AFB and the Utah SHPO agree that the Undertaking shall be implemented in accordance with the following stipulations in order to mitigate the adverse effect caused by the Undertaking.

## **STIPULATIONS**

**1. HABS/HAER DOCUMENTATION:** HAER (Historic American Engineering Record), Level II documentation will be completed on Building 30213, the representative type of the Facilities identified for demolition. The documentation will follow the Secretary of the Interior's *Standards and Guidelines for Architectural and Engineering Documentation, HABS/HAER Standards (1990)* and include:

- a. PHOTOGRAPHS:** Hill AFB will provide an adequate number of professional quality large format photographs of Building 30213, the representative type of the Facilities cited for demolition. These exterior and interior photographs will accurately record the structure. Photos will be stored in archival stable protective storage pages. The photographs will be numbered and labeled with the address and the date that the photograph was taken, and keyed to a floor plan and site map. Photography will comply with the *National Park Service, Heritage Documentation Programs HABS/HAER/HALS Photography Guidelines (November 2011)*.
- b. DRAWINGS:** Existing drawings of Building 30213 will be photographed using large-format negatives.
- c. WRITTEN DATA:** History and descriptions will be compiled using the outline format for manufacturing and industrial sites.

Hill AFB Security personnel shall screen all documentation, and no information will be publicly released if doing so would create an unreasonable security risk or violate any valid Federal security law or regulation. All material will be stored with the Hill AFB Cultural Resources Management Program.

**2. PUBLIC OUTREACH:** Hill AFB will post HAER documentation of Building 30213, high quality digital photographs, and associated as-built drawings, to its Cultural Resources Public Outreach Website. These materials shall be inserted into a slide show situated on a map of Hill AFB managed properties to show context. Hill AFB Security personnel will first screen materials proposed for inclusion in the Website and no information will be publicly released if doing so would create an unreasonable security risk or violate any pertinent Federal security law or regulation. Hill AFB may remove any information posted to the Website that would violate Federal security laws or regulations.



**3. INTENSIVE LEVEL SURVEY (ILS) FORM:** Hill AFB shall complete an ILS form that meets basic survey standards for Building 30213, and submit it to the Utah SHPO. Hill AFB shall post relevant portions of the ILS form on the Cultural Resources Public Outreach Web Site, subject to the security restrictions cited in this MOA.

**4. UNANTICIPATED DISCOVERY OF ARCHAEOLOGICAL DEPOSITS:** Hill AFB has determined that the undertaking will have no effect on archaeological or other non-building-related cultural resources materials considered historic properties by 36 CFR § 800.16(l)(1), or on materials protected by Native American Graves Protection and Repatriation Act and the Archaeological Resources Protection Act. However, should unanticipated discoveries of archaeological deposits become evident during any time of the Undertaking, the provisions for unanticipated discovery of archaeological deposits outlined in the applicable version of Hill AFB's Integrated Cultural Resources Management Plan shall be implemented.

**5. DISPUTE RESOLUTION:** Should the Utah SHPO or Hill AFB object within thirty (30) days to any actions proposed pursuant to this MOA; Hill AFB shall consult with the Utah SHPO to resolve the objection. If Hill AFB determines that the objection cannot be resolved, Hill AFB shall:

- a. Forward all documentation relevant to the dispute, including Hill AFB's proposed resolution, to the ACHP. The ACHP shall provide Hill AFB with its advice on the resolution of the objection within thirty (30) days of receiving adequate documentation. Prior to reaching a final decision on the dispute, Hill AFB shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP, signatories, and concurring parties, and provide them with a copy of this written response. Hill AFB will then proceed according to its final decision.
- b. If the ACHP does not provide advice regarding the dispute within the thirty (30) day time period, Hill AFB may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, Hill AFB shall prepare a written response that takes into account any timely comments regarding the dispute from the signatories and concurring parties to the MOA. Hill AFB will provide them and the ACHP a copy of such written response.
- c. Hill AFB's responsibilities to carry out all other actions subject to the terms of this MOA that are not the subject of the dispute remain unchanged.

**6. AMENDMENTS:** This MOA may be amended when such an amendment is agreed to in writing by all signatories. The amendment will be effective on the date a copy signed by all of the signatories is filed with the ACHP.

**7. TERMINATION:** If any signatory to this MOA determines that its terms will not or cannot be carried out, that party shall immediately consult with the other parties to attempt to develop an amendment per Stipulation 6, above. If within thirty (30) days (or another time period



agreed to by all signatories) an amendment cannot be reached, any signatory may terminate the MOA upon written notification to the other signatories.

Once the MOA is terminated, and prior to work continuing on the undertaking, Hill AFB must either (a) execute an MOA pursuant to 36 CFR § 800.6 or (b) request, take into account, and respond to the comments of the ACHP under 36 CFR § 800.7. Hill AFB shall notify the signatories as to the course of action it will pursue.

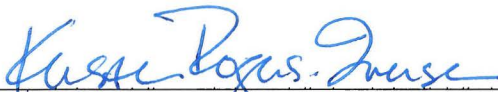
**8. EFFECTIVE DATE and DURATION:** This MOA shall become effective upon the date of the last approving signature. If, after three (3) years, any of the stipulations of this MOA have not been fulfilled, Hill AFB will notify the Utah SHPO and determine whether the MOA needs to be revised.

Execution of this MOA by Hill AFB and the SHPO, and implementation of its terms, is evidence that Hill AFB has taken into account the Undertaking's effects on historic properties and has mitigated the adverse effect.

**DEPARTMENT OF THE AIR FORCE, HILL AIR FORCE BASE**

By:  Date: 23 Apr 13  
KATHRYN L. KOLBE, Colonel, USAF  
Commander, 75th Air Base Wing

**UTAH STATE HISTORIC PRESERVATION OFFICER**

CH By:  Date: 29 May 13  
WILSON G. MARTIN  
Utah State Historic Preservation Officer

**APPENDIX A**  
**AMMUNITION STORAGE FACILITIES**

<b>Facility Number</b>	<b>Facility Function</b>	<b>Year Built</b>	<b>NRHP Justification</b>	<b>Air Force Property Code</b>	<b>Mitigated 2006 Program Comment</b>
30200	Test Facility	1964	Cold War Significance	222-222 Missile Production	
30201	Storage Facility	1967	Cold War Significance	422-264 Storage Igloo	X
30202	Storage Facility	1967	Cold War Significance	422-264 Storage Igloo	X
30203	Storage Facility	1967	Cold War Significance	422-264 Storage Igloo	X
30204	Storage Facility	1967	Cold War Significance	422-264 Storage Igloo	X
30205	Storage Facility	1967	Cold War Significance	422-264 Storage Igloo	X
30206	Storage Facility	1967	Cold War Significance	422-264 Storage Igloo	X
30207	Storage Facility	1967	Cold War Significance	422-264 Storage Igloo	X
30208	Storage Facility	1967	Cold War Significance	422-264 Storage Igloo	X
30210	Propellant Storage Facility	1964	Cold War Significance	422-257 Storage Segregated Magazine	X
30211	Storage Facility	1976	Cold War Significance	422-264 Storage Igloo	
30212	Storage Facility	1976	Cold War Significance	422-264 Storage Igloo	
30213	Storage Facility	1976	Cold War Significance	422-264 Storage Igloo	

<b>Facility Number</b>	<b>Facility Type</b>	<b>Year Built</b>	<b>NRHP Justification</b>	<b>Air Force Property Code</b>	<b>Mitigated 2006 Program Comment</b>
30214	Storage Facility	1976	Cold War Significance	422-264 Storage Igloo	
30215	Storage Facility	1977	Cold War Significance	422-264 Storage Igloo	
30216	Storage Facility	1977	Cold War Significance	422-264 Storage Igloo	
30217	Storage Facility	1977	Cold War Significance	422-264 Storage Igloo	
30218	Storage Facility	1977	Cold War Significance	422-264 Storage Igloo	
30219	Storage Facility	1977	Cold War Significance	422-264 Storage Igloo	
30220	Propellant Storage Facility	1964	Cold War Significance	422-257 Storage Segregated Magazine	X
30221	Storage Facility	1978	Cold War Significance	422-264 Storage Igloo	
30222	Storage Facility	1978	Cold War Significance	422-264 Storage Igloo	
30223	Storage Facility	1978	Cold War Significance	422-264 Storage Igloo	
30224	Storage Facility	1978	Cold War Significance	422-257 Storage Segregated Magazine	
30230	Test Facility	1964	Cold War Significance	422-264 Storage Igloo	X
30240	Test Facility	1964	Cold War Significance	422-264 Storage Igloo	X
30250	Propellant Storage Facility	1964	Cold War Significance	422-257 Storage Segregated Magazine	X

<b>Facility Number</b>	<b>Facility Type</b>	<b>Year Built</b>	<b>NRHP Justification</b>	<b>Air Force Property Code</b>	<b>Mitigated 2006 Program Comment</b>
30260	Test Facility	1964	Cold War Significance	422-259 Missile Storage Facility	X
30270	Test Facility	1964	Cold War Significance	422-259 Missile Storage Facility	X
30280	Test Facility	1964	Cold War Significance	422-264 Storage Igloo	X
30290	Propellant Storage Facility	1964	Cold War Significance	222-222 Missile Production	

## **FINDING OF NO SIGNIFICANT IMPACT**

**1. NAME OF ACTION:** Proposed Missile Storage Improvements, Utah Test and Training Range.

**2. DESCRIPTION OF THE PROPOSED ACTION:** Hill Air Force Base (AFB) proposes to construct new missile storage facilities and related facilities in and near the missile storage area (MSA) at Oasis, Utah Test and Training Range (UTTR), in the North Range area.

**3. SELECTION CRITERIA:**

The proposed action meets the following criteria:

- provide safe and adequate facilities for storing missile motors for future mission requirements,
- comply with USAF real property instructions,
- be located close to the existing missile motor destruction facility, and
- not endanger or encroach upon military training areas or existing facilities.

**4. ALTERNATIVES CONSIDERED:**

Alternative A: No Action

New missile storage facilities would not be constructed. Safety deficiencies would continue to exist.

Alternative B: Proposed Action

The missile storage facilities and related facilities would be constructed.

Alternative C: Locate the Water Tank West of the MSA

Alternative C differs from the proposed action only in respect to the location of the proposed water tank and water lines. It is less desirable because it would not create a looped water system.

Alternative D: Renovate Existing Facilities

Pursuing renovation would not comply with current Air Force real property instructions related to cost of renovation.

Alternative E: Other Location


No other locations were identified satisfying the selection criteria related to proximity, endangerment, and encroachment.

## 5. SUMMARY OF ANTICIPATED ENVIRONMENTAL EFFECTS:

This section only applies to the alternatives considered in detail.

Issue	Alternative A No Action	Alternative B Proposed Action	Alternative C: Water Tank West of the MSA
Air Quality	Existing air emissions would continue for heating the missile storage facilities.	Qualified asbestos abatement contractors would prevent effects to air quality. Peak air emissions from construction would be less than 27 tons per year for each criteria pollutant as well as for VOCs. Fugitive dust would be controlled.  Operational air emissions would increase by 10 tons per year for the sum of all pollutants.  Conformity with the Clean Air Act was demonstrated.	Same effects as the proposed action.
Solid and Hazardous Waste	No effects were identified.	If contaminated building materials, soils or pavements are identified, they would be properly handled during the demolition and construction process. No effects were identified for operations.	Same effects as the proposed action.
Biological Resources	The area has been previously cleared, disturbed, and burned. There are some native plants, but undesirable species dominate.	During construction activities, Burrowing owls, badgers, and rodents could be temporarily displaced. Disturbed habitat would be restored. No effects were identified for operations.	Same effects as the proposed action.
Water Quality	No effects were identified.	Related to construction, water quality would be protected by implementing stormwater management practices. No effects were identified for operations.	Same effects as the proposed action.
Cultural Resources	No effects were identified.	Adverse effects were identified and mitigated through a memorandum of agreement with the Utah State Historic Preservation Office.	Same effects as the proposed action.

6. **FINDING OF NO SIGNIFICANT IMPACT:** Based on the above considerations, a finding of no significant impact (FONSI) is appropriate for this assessment.

Approved by:   
HARRY BRIESMASTER III, GS-15, DAF  
Director, 75th Civil Engineer Group

Date: 25 Jun 13